

ITEMS OF INTEREST.

VOL. XVI.

JULY, 1894.

No. 7.

ORIGINAL COMMUNICATIONS.

THE TEST OF OPPORTUNITY.

The incident of the boatload of shipwrecked men, dying of thirst, who accidentally dropped a bucket into what they supposed to be the sea, and found they were sailing in the fresh water of the mouth of the Amazon, has been used till it is threadbare; but it is, nevertheless, a capital illustration of what is happening this very hour to a multitude of men and women. There are a host of people who suppose themselves to be eager to find their work in life, and who are longing for an opportunity, who are surrounded by work and opportunity which they fail to recognize. The real difference between men is not in their chances, but in their ability to recognize their chances.

Opportunities are universal. They come in one form or another to every human being. It is safe to say that no man lives whose hand at some time has not been at the door of a genuine opportunity, if he had only raised his eyes and discovered that his hand was no longer resting on an unbroken wall. The trouble is we do not see. We are so intent on having things come to us after some manner which we have determined on in our own minds, that when they come to us in some other guise we let them pass unnoticed. The common opportunity comes, as the divinest opportunity in the whole history of the world came, cradled in obscurity.

Opportunities wear the humblest dress; they hide themselves behind the simplest disguises; there is nothing in them that arouses our interests or awakens our suspicions; for the most part we pass them by as the most commonplace things in our environment. This is the subtle and dangerous test which they apply to us. If they come with their value disclosed by the splendor of their attire, there would be no test of character in the manner in which we met them. Every man treats a king handsomely; it is only the gentleman who is courteous to the beggar. Opportunities come in such fashion that our reception of them determines our fitness to use them.

The man or woman of true wisdom knows that there is nothing in all this world which has not noble possibilities in it, and that appearances count for nothing when quality is concerned. It is by no accident, therefore, that some men succeed and others fail; that some men seem to be passing steadily upward and others remain hopelessly stationary. The men who succeed are open-minded. They are alert to discover the true value of things. They do not estimate the importance of events or chances by their appearances. They take everything at its best, and use it for its highest.

So there lies at the bottom of every right use of opportunities a noble quality of character; that quality which takes life as a divine thing, full in every form of noble chances of growth and progress. No one will read these words, however obscure or remote from the great centers of human activity, about whom there are not doors ready to be opened into a wider usefulness and a nobler life. What we need is, not a new chance, but clearness of vision to discern the chance which at this very hour is ours if we recognize it.

T. S., in Family Friend.

MISSISSIPPI DENTAL ASSOCIATION.

EXAMINING BOARDS.

The report of Dr. W. E. Walker, of the work of Examining Boards, shows a commendable practice in the examination of candidates. The successful applicants in the written examination on theory were subjected to a practical test by clinics, a feature never before introduced in the Mississippi Board examinations. A special feature introduced in grading the papers was "the envelop system." All the papers of each applicant were signed with some fictitious name or word, selected from a list provided by the board. The real name and address of the candidate, together with this sign-word, being placed in a sealed envelop, which remained untouched till after all the papers had been examined and graded, and the average of the candidate determined. By this means all possibility of partiality or personal influence was eliminated. Of thirteen applicants for permanent license examined, six reached the required average. The six who successfully passed the written examination on knowledge or "theory" were also required to give evidence of their practical skill and judgment by clinics, which they did to the satisfaction of the board. The one who attained the highest average in both written and clinical examinations was a dental college graduate. One of the two who attained the highest (95 per cent) on theory was a Freshman student. One who failed with a low per cent was a graduate in medicine.

THE EMPLOYMENT OF CHEMICAL COMPOUNDS IN THE MANAGEMENT OF FOUL PULP CANALS.

Dr. Martin, of Mississippi, says: The difficulty of access in some root canals, and the peculiar dissolving and chemical character of sulfuric acid, as shown by Dr. Callahan, of Cincinnati, is producing a revolution in the treatment of dead teeth. It is employed of from 20 per cent to 50 per cent for softening the osseous structure; the action of the acid on the lime salts of the tooth converts the earthy portion into calcium sulphates, forming an insoluble protecting layer over the unaffected parts beneath. For removing the putrid contents of the canals chemical compounds are employed, which undergo dissolution when brought into contact with the products of decomposition, the oxygen which is liberated uniting with the effete matter and separating it from that which is vital, rendering the former easy of removal.

Of these compounds, either sodium peroxid, followed by hydrochloric acid, or pyrozone in 5 per cent solution, cleanses the canals speedily and thoroughly, placing them in fit condition for final treatment. The judicious employment of such compounds affords a reliable, scientific, and practical method of dealing with foul pulp canals, but a knowledge of the chemical nature of these compounds, and the manner in which they act, is essential to their successful employment; their empirical use will generally prove disappointing.

The following are the present officers of the Mississippi Dental Association: Dr. W. E. Walker, Bay St. Louis, President; Dr. F. H. Smith, Water Valley, Vice-President; Dr. T. C. West, Natchez, Secretary; Dr. C. C. Crowder, Kosciusko, Treasurer.

HONORS TO DR. HORACE WELLS.

The thirtieth annual meeting of the Connecticut State Dental Association was held at Hartford, May 15th and 16th. The following gentlemen were elected officers: Dr. Charles P. Graham, of Middletown, President; Dr. Clinton W. Strang, of Bridgeport, Vice-President; Dr. George L. Parmele, of Hartford, Secretary; Dr. Daniel A. Jones, of New Haven, Treasurer; and Charles McManus, C. C. Barker and W. H. Rider, Executive Committee.

Mr. Charles T. Wells, son of Horace Wells, the discoverer of anesthesia, was unanimously elected an honorary member. The following gentlemen having been in practice in the State over fifty years were elected active members for life: Drs. S. J. Tuller, J. A. Pelton and George H. Waters.

Papers were read by several of the members, and by Dr. Thomas C. Stellwagen, of Philadelphia; Dr. C. E. Frances, of New York; and Dr. Marfield, of Holyoke.

The Association publishes monthly a bulletin for distribution among the members.

The following resolutions were introduced by Dr. James McManus:

Resolved, That the members of the Connecticut State Dental Association in commemorating the semi-centennial of the discovery of anesthesia, publish a few facts, that the present and future generations may know the truth regarding it. In the ages past many men may have given one or more drugs with the hope of giving freedom from pain during surgical operations; but the fact is indisputable, that Dr. Horace Wells, of Hartford, Connecticut, was the first man to deliberately take by inhalation an anesthetic, and persistently after proclaim to the world that a surgical operation had been performed on him, without pain, while under the influence of nitrous oxid gas (an anesthetic), December 11th, 1844.

While we would not detract from, but willingly give all due credit to, the men who have since that memorable day introduced other more powerful and dangerous anesthetics, and which, for a time, were so successfully forced on the public by the recommendations of the medical fraternity, that the safer anesthetic discovered by the dentist, owing to his early death, was nearly stamped out, and humanity for many years deprived of its use and its blessings; yet it was again taken up by Connecticut dentists, and its value as a safe anesthetic proved daily in thousands of operations since 1863.

The physicians and surgeons of the city of Hartford united in a testimonial declaring their belief in the justice of the claims of Dr. Wells, in 1845 and 1846.

The General Assembly of Connecticut, in 1847, passed resolutions in favor of Dr. Wells as the discoverer of anesthesia, and declared he was entitled to the favorable consideration of his fellow-citizens and to the high credit of a public benefactor.

The Court of Common Council of the city of Hartford passed resolutions to the same effect.

In France, the medical society in Paris, January, 1848, voted "To Horace Wells, of Hartford, Connecticut, is due all the honor of having first discovered anesthesia."

The State of Connecticut and the city of Hartford, with the added contributions from citizens of this and other States, have had placed in Bushnell Park, in Hartford, a portrait statue in bronze of Dr. Horace Wells; and the past year the Board of Dental Commissioners have had stamped on their certificates of registration and license a seal on which is a medallion head of Dr. Wells, to remind all dentists in this State of the honor due to his memory.

The public should not be allowed to forget that the simple, honest, Christian desire of this dentist was to give his discovery to all to be "free as the air we breathe," and his course in regard to it stands out grandly when compared with the extortionate plans laid by all other venders of secret anesthetics, for the use of which they demand of suffering humanity an unjust tribute.

Drs. George L. Parmele, James McManus and Civilion Jones have been appointed a committee to arrange for the semi-centennial celebration. It is proposed to have a banquet, and to place a memorial tablet to mark the spot where the first operation under an anesthetic was performed.

SOLDERING ALUMINUM.

By means of the alloys mentioned below, aluminum or other metals, such as iron, tin plate, zinc, copper, brass, nickel, it is said, can be rapidly and easily soldered, either with the brazing iron or blow-pipe. Aluminum can also be soldered to any of the above metals; the material is cheaper than any heretofore employed, gives a solid joint, and does not injure the metal by oxidation or otherwise: (1) Unalloyed pure tin, melting point 250° ; (2) tin 1,000, lead 50, melting point 280° to 300° ; (3) tin 1,000, zinc 50, melting point 280° to 320° ; (4) tin 1,000, copper 10 to 15, melting point 350° to 450° ; (5) tin 1,000, nickel, 10 to 15, melting point 350° to 450° ; (6) tin 900, copper 100, bismuth 2 to 3, melting point 350° to 450° . The first three do not color aluminum, and can be used for ornamental and artistic objects. Four and five are yellowish in color, but have the advantage of higher melting point and greater strength and hardness, and suggest the possibility of using aluminum for various articles and purposes for which hammered, coated or enameled iron, tin plate, copper, zinc, lead, etc., are now used. The *Journal* of the Society of Chemical Industry says the last alloy can be made to assume any tint of yellow by varying the proportion of copper, and is, therefore, suitable for soldering aluminum bronzes; the proportion of bismuth is adjusted so as to keep the melting point suitable for the use of the brazing iron.

THE METER, KILOGRAM, ETC.

In undertaking the revision of the 20th edition of Nystrom's Pocket Book of Mechanics and Engineering, I found one difficulty, which has often come up in other technical work—the various values of the meter, kilogram, and other units of the metric system, expressed in the “customary units” used in the United States.

To get the latest, most correct and legal values of these metric units I applied to the United States Coast and Geodetic Survey,

from which I received the following figures, for converting customary to metric units and *vice versa* :

LINEAR.

One inch equals 25.4001 millimeters.
 One foot equals 0.304801 meters.
 One yard equals 0.914402 meters.
 One mile equals 1.60935 kilometers.
 One meter equals 39.37 inches.
 One meter equals 3.28083 feet.
 One meter equals 1.093611 yards.
 One kilometer equals 0.62137 mile.
 One Gunter's chain equals 20.1168 meters.
 One fathom equals 1.829 meters.
 One nautical mile* equals 1853.25 meters.

SQUARE.

One square inch equals 6.425 square centimeters.
 One square foot equals 9.290 square decimeters.
 One square yard equals 0.836 square meter.
 One acre equals 0.4047 hectare.
 One square statute mile equals 259 hectares.
 One square centimeter equals 0.1550 square inch.
 One square centimeter equals 10.764 square feet.
 One square centimeter equals 1.196 square yards.
 One hectare equals 2.471 acres.

CUBIC.

One cubic inch equals 16.387 cubic centimeters.
 One cubic foot equals 0.02832 cubic meters.
 One cubic yard equals 0.765 cubic meter.
 One U. S. bushel equals 0.35239 hectoliter.
 One British bushel equals 0.363477 hectoliter.

One cubic centimeter equals 0.0610 cubic inch.
 One cubic decimeter equals 61.023 cubic inches.
 One cubic meter equals 35.314 cubic feet.
 One cubic meter equals 1.308 cubic yards.

WEIGHT.

One grain equals 64.7989 milligrams.
 One oz. avoirdupois equals 28.3495 grams.
 One lb. avoirdupois equals 0.45359 kilogram.
 One lb. avoirdupois equals 453.592-4277 grams.
 One oz. Troy equals 31.10348 grams.
 One milligram equals 0.01543 grain.
 One kilogram equals 15432.35639 grains.
 One kilogram equals 2.20462 lbs. avoirdupois.
 One kilogram equals 32.1507 oz. Troy.
 One hectogram equals 3.5274 oz. avoirdupois.
 One quintal equals 220.46 lbs. avoirdupois.
 One millier or tonne equals 2204.6 lbs. avoirdupois.

CAPACITY.

One quart equals 0.94636 liter.
 One U. S. gallon equals 3.78543 liters.
 One British gallon equals 4.54346 liters.
 One British bushel equals 36.3477 liters.
 One centiliter equals 1.0567 quarts.
 One liter equals .26417 gallon.
 One liter equals .028377 bushel.

* Often miscalled a "knot."

USEFUL HINTS.

COMBINATION FILLINGS.—I have had such good success for the past fifteen years with combination gold and alloy, in labial and proximal fillings that I give one of my methods for large compound cavities involving the proximal and crown surfaces of molars and bicuspid. Prepare the cavity and set a screw post as shown in cut. Do not drill the hole for the post deep enough to weaken the



wall of the cavity; it is only necessary to have it of sufficient depth to retain the post in position till the amalgam is packed around it. Put on a good close-fitting band matrice, and fill the cavity from one-third to one-half full (the alloy should always extend above the enamel line) of alloy, leaving one-third of the screw projecting above the filling. At a subsequent sitting complete the operation with gold, and finish nicely, burnishing all the edges down smooth.

NOTE.—I have just had a four-page illustrated paper published, giving my investigations and experience for the past fifteen years, with combination alloy-gold fillings and crowns; a copy will be sent to all writing me, enclosing stamp.

Wm. H. Steele, Forest City, Iowa.

HOW TO POLISH PORCELAIN TEETH.

J. Van Pelt Wicks, D.D.S., Brooklyn.

It is frequently necessary to grind a porcelain tooth, to transform a central incisor into a lateral incisor, a cuspid, or into a bicuspid. More often one is obliged to grind a tooth to get it into the space it is to fill. I have tried several methods, but none have equaled, either in efficiency or in the rapidity with which it can be done, this process: First grind and shapen the tooth on the lathe, after which it is easy to remove all the marks of the lathe wheels, and make the tooth very smooth by using an emery disk with the engine, following with a cuttle-fish disk. Then polish the tooth on the lathe with a felt wheel, using as a powder pulverized pumice stone, and you will be pleased with the splendid appearance of your tooth.

To remove the artificial glaze from a tooth, or crown, it is only necessary to use the paper disks on the engine and polish on the lathe, as before mentioned.

If care is given, the work can be done in less than five minutes, and even if the tooth be of our American make, I doubt if an experienced eye would detect the grinding short of careful scrutiny.

FILLING ROOTS.

A. D. Barker, Grinnell, Iowa.

The one important thing in filling roots of teeth is to use a filling material that will be sure to reach and fill the end of each pulp canal. It makes very little difference how this is done. I have known a single-rooted bicuspid, in which the pulp had been dead and a fistulus opening established for years, to become entirely well by accidentally filling the root with the end of a wooden tooth-pick. When such opening has not been established, the contents of pulp chamber and canals should be sterilized with Black's 1, 2, 3 mixture before attempting to remove much of it. In all ordinary cases I consider once a week often enough to treat a tooth, whether the pulp is being devitalized or is already dead. There are exceptions of course. A very little "treatment" is sufficient.

I know of nothing that will fill the small roots except Gramm's copper canal points. For large ones I know of nothing better, unless the root is large enough to receive a lead or tin point. The tips of the copper points often need to be cut off, according to size of foramen, just so they can be pressed home tightly without causing pain. In other words, the point must fill the end of the root, but must extend no further. With the tip of the canal thus sealed there can be no after-trouble, provided the canal was surgically clean. If the first point does not fill the whole root, others put in tightly around it will be all that is necessary, or the space may be filled in any other way.

For crown-filling, when decay is near the pulp, and the tooth is already weak, or when for any reason sufficient anchorage cannot be obtained, a mixture of cement and amalgam is valuable, using amalgam only on the outside.

Study simplicity of style, plainness of speech, aptness of phraseology and brevity of expression. Think out to a clear conception what you would tell—think it out deliberately in your own mind before attempting composition. When you begin to write keep the idea firmly fixed as your text, and write strictly to that text. Go at once to the heart of the subject, say what you have to say about it concisely, and directly. When you are through, stop.

C. N. Johnson.

CONVERTED TO LONG PRESCRIPTIONS.

J. W. Greene, D.D.S., Trenton, Mo.

The R for "Compound Cocaine Pigment" in January ITEMS reminds me: I used to think that long prescriptions of new remedies, difficult to be obtained, were made to show off the doctor, but not so.

In the last few years I have experimented with exhausting mental effort and at great expense in that direction myself, and I gratuitously offer to the profession my achievement.

In the last two years I have carefully noted seventeen thousand and thirty-two cases of pyorrhea, stomatitis calorrolis, pericementitis and gingivitis, with about four thousand of pulpitis; also the painless extraction of thirty-two thousand and forty-six teeth, and have met with universal success with the following:

(For essential accuracy I use decimal fractions.)

| | | |
|-------------------------------|----------|-------|
| R—Apis ferri regi virus | ggtt. | .005 |
| Crocadilus lacrimabilis | ggtt. | .5 |
| Hurnanus kin lactis | ggtt. | .09 |
| Gaudium lacrimabilis | ggtt. | .07 |
| Aque pura Holi | ggtt. | 3.007 |
| Oleum gladnii | ggtt. | .007 |
| Nectar Dei | smidgeon | .0009 |
| Nerve auri | smidgeon | .0057 |

Mix.—Temperature 1013 F. with electric volts, 17.402.

For dissolving old amalgam fillings in the teeth add:

Oleo contentio, pulv. gr. 9.03

And for paste to make poorly fitting "dentures" suck fast till your patient leaves your office, add to all:

Alphidæ excrementi (honey dew).....ggtt. 13.05

Simple gumfusticated oil, q. s.

Mix.—Apply in old of the moon.

I am quite a sufferer from ulceration in the ear. By the use of tr. phytolacca (greenwad), 15 gtts., every hour, I prevented pus forming in my ear. I had a mastoid abscess cut out of my left ear in July, 1889, but this time my right ear was giving me trouble when I used the phytolacca.

I also prevented abscess from forming on the root of my left upper central incisor on two occasions, and have been quite successful with the tr. phytolacca in my practice, in preventing abscesses.

C. G. Aven, D.D.S., Bristol, Tenn.

MAGNESIUM HYDRATE.

The use of an antacid is frequently indicated in the mouth in cases of acid secretions, erosions, and other like pathological conditions. For these we have for a long time been using precipitated chalk, limewater, and other such preparations. A friend lately sent us a bottle of Phillips' Milk of Magnesia, and this has now taken the place of all other alkalies.

The use of magnesia as a laxative, or mild cathartic, in the form of effervescent citrate, or as Epsom salts, is too well known to need comment. But there are certain inconveniences attending its employment, such as the danger of forming insoluble concretions in the bowels, through its precipitation from the compounds in which it was an element. In its present form it is a complete hydrate, and hence is not subject to precipitation by the neutralization of any of the ingredients which hold it in solution in a compound.

It is pleasant to the taste, and if a teaspoonful be taken into the mouth at bed-time, and rinsed about till it comes in contact with the teeth, it will form an antacid coating which will remain for some time, thus materially increasing the benefits to be derived from it. There is no preparation within the sphere of our knowledge which is so useful in acid erosion of the teeth, and it should be prescribed freely in all such cases. It may be used subsequent to cleaning the teeth after each meal, and should certainly be employed at night and morning.

A writer in *Dosimetric Medical Review* instances this case:

A young man, twenty-six years of age, came to me for a remedy for facial neuralgia caused by a decayed tooth. I prescribed for him aconitin, morphin and sulfate of strychnin. I continued the granules every two hours. At the end of four days the excessive sensibility of the gums and of the face had entirely disappeared, so that he was able, on my advice, to go to a dentist who extracted the tooth which was the source of the disease, and as a result my patient has since been free of facial neuralgia.

Thus was a case of facial neuralgia "victoriously treated by the dosimetric system." Another instance, and not an uncommon one, of the want of a full comprehension of the pathological conditions existing. Why prolong the patient's sufferings two to four days, dosing him with narcotics when permanent relief could have been secured by a dentist in ten minutes? To ascribe the permanency of cure to dosimetry is simply ridiculous.

W. S. Elliott, D.D.S., M.D., Trenton N. J.

SUPPRESS EGOTISM.

Young lawyers, young graduates in professions, in fact all new enterprises, very often remind us of young boys, who, in their own estimation, have reached the maximum stage of their mental development. It seems a mystery to them that their parents and those of maturer years should have lived so long and accomplished so little. They soon learn, however, the old adage is quite true, that "the world was not made in a day," and that others are slow to see things just as they do, though to them it looks so easy and plain. It is a stage of conceit and egotism that many have to pass through that they may taste the bitter dregs of disappointment, that really makes them better and wiser men. Few can look back to this stage of their lives without seeing imprinted on the sands of time many little egotistical acts that bring a slight tinge of shame to their maturer and wiser heads.

The young aspirants for greatness and renown bob up before us in the journey through life, and it is interesting and amusing to watch them in their various maneuverings as they plod along down these rugged paths.

A BAD CASE.

At a recent meeting of the New York State Dental Society much time was taken up by papers and discussions on pyorrhea, and there was a continuous stream of talk about it in the reception rooms and corridors of The Delavan, where most of the members "hung out," as Mc would say.

Stopping in the house was a scion of one of New York's blue-blooded families, who had apparently come up the river for a grand spree. About midnight he had acquired a "jag" of colossal proportions, when he entered the elevator with a delegation of dentists.

"I shay," said he, "whatsh ish perrora?"

"What," answered Van; "I don't understand you."

"Thish yer perrira—prory. My muzzer's got it—bad. Cost her more'n thousand dollars. That son-of-a-gun Moselle's got'er most of it, and she aint well yet. Shay, guess it mus' be worse 'an 'er itch." And there were those present who agreed with him.

Southern.

A man's standard should not be that of somebody else, but it should be the best that is in him when he has taken advantage of every aid at his disposal.

Dr. C. F. Allan, in International.

BRIDGE-WORK.

By the introduction of crown and bridge-work the domain of mechanical dentistry has been greatly widened, and has become more intimately associated with operative dentistry. The relation has been an advantage to both. Teeth that have broken down even after most careful and thorough filling, are successfully replaced with crowns, whose appearance and usefulness are more perfect and satisfactory than their predecessors. Vacant spaces are spanned by permanent attachments to adjacent teeth, so that an unfortunate loss is restored to its original value in the dental arch. There is abuse in the application of crown and bridge-work now, as there has been in the use of vulcanite plates. Faulty work, unscientifically adapted, may bring disrepute in its wake. The evolution of the crown and bridge is still in progress. We must have more porcelain and restoration of contour with less danger of breakage, and less gold in view. If full-shaped porcelain teeth were manufactured with platinum plates extending along the proximal sides and base, instead of thin facings with pins, they could be soldered to caps or to bands, or to each other. It may be that the platinum bridge frame, constructed and fitted to its attachments, and then having the porcelain baked in, will meet the requirements of a more perfect bridge. I should like to follow up this part of the subject, but will leave it for separate consideration.

W. H. Shultze.

A new compound, which seems destined to be of much practical importance, is now prepared on a manufacturing scale under the name of "carborundum." This substance resulted from the efforts of Mr. E. G. Acheson, to produce crystallized carbon for abrasive purposes. He has apparently produced an excellent abrasive material, though it is not composed entirely of carbon, as he expected it to be. The compound is made by heating together, in an electric furnace, sand, coke and salt. As obtained it consists of small crystals, so small, that the greater number of them pass through a sieve having 2,500 meshes to the square inch. The substance is very hard, very infusible, and very difficult to burn. It is believed by its discoverer to be as hard as diamond. It has been successfully used to polish diamond, glass, porcelain, hard iron and steel. It promises to be a very valuable substitute for emery and corundum in all such work. The substance is a chemical compound of carbon and silicon.

PAYING DEBTS PROMPTLY.

How few young men realize the importance of paying their debts promptly. A debt is easily contracted, whether by purchasing an article or by gambling, and the law should be changed in such a manner as to make it equally punishable whether for a small or large liability ; at present it does not pay to sue for a debt of less than \$25, and even then it is throwing away money in legal expenses unless you are sure the debtor has means or property to levy on. A great many people being aware of this, get credit wherever possible and with positive intentions of never meeting their liabilities.

Many young men never know how to appreciate a good friend, and a good advice to them is—never borrow money from a friend. The old stanza with which most of us are familiar will bear repeating :

I had money and a friend,
In whom I set great store :
I loaned my money to my friend,
But saw his face no more.

If I had money and my friend,
As I had once before,
I'd keep my money and my friend,
And play the fool no more.

The great evil in not paying debts promptly is that the evil grows with the person and means a positive barrier to the young man contemplating starting in business for himself. Promptness is the very foundation of business principles, without which no one can aspire to success in life ; a man who is prompt in his payments can always acquire credit even if his means are small ; whereas, a wealthy man cannot do so as easily if he gets behind time, as people lose confidence in him and suspect something is wrong ; of course, everybody is at times compelled to be overdue in some payments through the negligence (or otherwise) of others in paying them, which reminds me of the following lines :

The man that is punctual always,
Should be esteemed ; but then,
Think of the time he is wasting
In waiting for other men.

Never be afraid of your creditor ; if you are unable to meet your debt through unforeseen circumstances on due date, acquaint him with the fact and ask for an extension of time, he will then appreciate you far more than by attempting to evade him.

TANNING LEATHER.

One of the most important recent applications of chemistry has resulted in great improvement of the processes of a long-established and widely-extended industry—the tanning of leather. The many beautiful exhibits of “mineral tanned leather” at the World’s Fair attracted the attention of all interested in that industry, and of many others as well. The chemical principal involved in this mineral tanning, lies in the conversion of the fiber of the skin into an insoluble, impermeable and non-putrescible compound, by combining it with chromic oxid. It is well known that in the common leather the fiber is combined with tannic acid. It may then be said that the new process differs from the old by the substitution of chromic oxid for tannic acid.

Without attempting to give the technical details of the process, it will be here sufficient to say that the hides are first impregnated with chromic acid, which gives them a bright yellow color. The chromic acid is next reduced by sulfurous acid, and the chromic oxid which is left, remains combined with the fiber of the hide, giving a light-blue leather, very tough and pliable, and more impermeable to water than the oak-tanned leather. This leather, it is claimed, can be worked with equal facility and lasts longer than the common leather. It can be made of any desired color by dyeing, but this, to be thoroughly done, must be accomplished before the leather is dry, otherwise its water-proof character prevents perfect permeation by the color. Professor Sadtler, of Philadelphia, is authority for the statement that the process is now carried out on a large scale at several morocco tanneries in that city, and that it is revolutionizing the manufacture of the lighter leathers in this country.

I have experimented with broken pieces of celluloid, such as broken trays, toilet brush handles, etc. I saturate the broken parts well with alcohol, place the two parts together, and solder them with a hot iron, but not hot enough to cause the celluloid to ignite, only sufficient to melt the celluloid. Let the united pieces cool, then polish. I mended a celluloid tray used by a photographer for developing negatives by this method more than two years ago, and it has not given way under continued daily use. I also repaired the handle of a toilet hair brush last January, which, having been used daily, is good yet.

C. G. Aven, Bristol, Tenn.

CURRENT THOUGHTS.

IMMEDIATE ROOT FILLING.

Dr. Edmond Noyes, Chicago.

A paper on this subject was read before the Illinois State Dental Society at its last meeting, which discussed very briefly the question "Is immediate root filling advisable?"

1. After heroic extirpation of a live pulp?
2. After removing a devitalized pulp?
3. After removing a putrescent pulp?
4. When there is periodontal membrane abscess with fistulous opening?
5. The same without fistulous opening? ("Blind abscess.")

The essay gave an affirmative answer to each proposition. These cases appear to include about all diseased teeth requiring root fillings, except those with acute abscess. Whether the essayist would also fill these at the first sitting did not appear, but it is hard to see why he should not, unless deterred by the illness of the patient or the soreness of the tooth, from making a sitting sufficiently long to accomplish it.

The first two heads, namely, "After extirpation of a live pulp," and "After removing a devitalized pulp," are so nearly alike in their relations to this question that they may be considered together. They furnish the most frequent and suitable opportunities for immediate root fillings, and there are no serious objections to them if required by convenience or necessity. However, when we remember that a large proportion of root fillings have to be made in bicuspid and molars, and consider the difficulty of getting away all portions of the pulps from small roots, we often find that root filling "after the removal of all pulp tissue" does not always prove to be so very "immediate." Probably the recently described methods of cleansing pulp canals by means of kalium-natrium (dilute sulfuric acid), may make the accomplishment of it at one sitting more practicable than heretofore.

The objections to immediate filling after extirpation is complete relate to the difficulty of controlling hemorrhage or exudation, and consequently of obtaining complete dryness of the canals, to the irritability or sensitiveness of the parts at the apex, manifested by severe pain during the introduction of the filling, and which is apt to be much greater if the filling is carried to the apex as it should be, than if it stops short of its proper destination, and lastly

the liability of greater soreness and discomfort following the operation, than would be the case if delayed till another sitting.

Often these objections do not exist, or may be easily overcome, and many others in which they may be overcome or endured if it is desirable or necessary. There can be no universal rule. It is likely that country practitioners will complete these operations at once, oftener than those in cities, whose patients are more accessible, and in the habit of being more fully subject to the requirements of their dentists.

Those having putrescent pulps should have a broader definition, if intended to cover those all the way between, but not including those devitalized and filled without sepsis, and those in which an abscess had been formed. The first of the subheads in this class is suppurating pulps; the second, putrescent pulps, and a third, those in which the decomposition and removal of the pulp is complete, but without the formation of an abscess. Each of these three subdivisions implies that the pulp chamber or root canal is open or has been open.

The most significant and important thing about all these cases is sepsis or infection, and there are two decisive objections against immediate root filling, unless for some reason the necessity for it is so urgent as to justify the taking of considerable risk.

The first objection is in the fact that disinfection, to be thorough and trustworthy, requires time for its accomplishment. The second is the impossibility of knowing certainly whether the apical space has been infected, or whether it is infected during the operation, which is liable to happen, notwithstanding all possible care, if the work is completed at the first sitting. A very large proportion of those cases will do well if immediately filled, and some of them are so near like the preceding ones as really to belong with them. For instance, if a suppurating or putrescent pulp shows some life, and its removal is followed by somewhat free hemorrhage, the portion next the apex appearing to be in a nearly normal condition, there would be little fear of trouble if immediately filled. If, however, the whole root canal appears to be in a septic condition, it cannot be cleaned and filled at once without an unjustifiable risk of subsequent trouble that could probably be avoided by taking more time.

The first point to be gained is the disinfection of the root canals. This is more quickly and surely accomplished after the removal of so much of their contents as can be got away without danger of forcing anything through the apex. Then some strong and diffusible antiseptic should be placed in them for some days. (Free diffusibility is more important than great strength or concentration.)

This application may usually be tightly closed in by a gutta-percha stopping, though a vent will sometimes prove necessary. At the second sitting the canals may usually be safely cleaned to the apex, though I have seen some in which oil cassia and myrtol had been tightly enclosed for a week without developing the least trouble, which yet became acutely inflamed, and in some instances formed abscesses, after thorough cleaning and treatment at the second sitting, showing (probably) that the disinfection of the apical portions of the root-canals had not been so complete as was expected. (There may be some cases in which acute peridental inflammation is caused by the antiseptic instead of by infection, but if that is the cause it will not develop into an abscess.)

The third sub-class above mentioned (in which the decomposition and removal of the pulp are complete), are not always certainly distinguishable from those having blind abscesses, and the same general line of treatment usually proves appropriate in either case, though if there is active formation of pus, or if it becomes active under the stimulation of treatment, a tight closing in of the medicine is, of course, impracticable at first. That anybody should seriously advocate the immediate filling of roots that will not bear tight temporary stopping for half a day without severe pain and inflammation, which is properly relieved by removal of the stopping, seems incomprehensible. Perhaps no one does advocate it in just these cases, but some certainly do in cases that are impossible to distinguish from these at the first sitting. If there is a dead pulp, with the peridental membrane and the tissues at the apical space in a normal condition, we have only to remove the corpse and disinfect the chamber and canals, but if the apical tissues are diseased, we need in addition to have them cured before we fill the roots, or so far in the way of recovery that the remainder of the process can be depended on to complete itself. This would seem to be so reasonable a proposition as to need no argument, but it has been urged by some that the foramen of a root is usually so small as not to permit the drainage of a blind abscess through it, or the diffusion of medicines through it to the diseased apical tissues. This is undoubtedly the case in a few instances, but clinical observation is conclusive to the contrary in a very large proportion of cases.

In regard to the immediate filling of teeth with blind abscesses, I will quote from the essay already frequently referred to. "Diagnosis of blind abscess of alveolar process is largely guesswork, because the single item of a wet canal does not prove the presence of pus nor the existence of an abscess cavity. When blind abscess exists, the accumulation of pus is so very slight that it will ceas

altogether after the cause has been removed by closing the apical end of the pulp canal. In nearly all such cases, prompt closure at the apex will be followed by noticeable inflammation, if proper care be observed in manipulation within the pulp canal." It is true that the diagnosis of a chronic and quiescent blind abscess is sometimes difficult, and we may sometimes treat a pulpless tooth till assured of its healthy condition, and fill it without ever certainly knowing whether a small blind abscess has been cured during the treatment or whether none ever existed, but there are rather numerous instances in which, after removal of the contents of the pulp canal, the discharge of pus is abundantly sufficient to make the diagnosis certain, and most of us have often passed a fine probe through the foramen into acute abscess of this sort and seen it discharge so large a quantity of pus through the pulp canal as very effectually to controvert the statement that "when blind abscess exists, the accumulation of pus is so very slight that it will cease altogether after the cause has been removed by closing the apical end of the pulp canal." It must never be forgotten that, though the contents of the pulp chamber and canals were the first cause of the abscess when once established, the contents of the abscess cavity may constitute a continuing cause, which it is as necessary to remove, surgically or therapeutically, as to remove that part of the cause contained in the pulp chamber and canals.

I will quote again: "In all cases the apical end of a pulp canal should be permanently closed as soon as the canal is free from pus or other fluid, and all obstructive matter." I think we can all agree to this if we add the requirement, that by taking sufficient time and giving proper treatment we have ascertained that the canal will remain clean. The statement of the essayist immediately following does not fulfil that requirement, for he says: "I would remove all obstructive matter from the canal, absorb moisture from it till no more appears, and immediately and permanently fill the canal." It is true that a good many blind abscesses will get well after being once pretty thoroughly drained and having the canal permanently closed, but no man can certainly tell which will fail to do so, and it would seem inexcusable to take so great a risk when there is no necessity for it. The cases of blind abscess are those in which immediate root-filling is most dangerous and least justifiable.

In closing the discussion, the essayist quoted from, referring to a remark by Dr. Black to the effect that "Evidence of skill in a dentist is not so much in his success in the large majority of cases that are likely to do well, as with the minority which will give trouble to the patient unless very skilfully handled," said: "Dr.

Black has divided immediate root-filling cases into majority and minority, admitting that the large majority are successful. * * * He did not state what the minority is. Close observation for twelve years leads me to estimate the minority at ten per cent. There is no political party under the sun that cares a rap for a minority that represents only ten per cent." This last comparison is an unfortunate one, for in cases of immediate root-filling the minority does not feel bound by the action of the majority, and any man who is obliged to confess to a failure of ten per cent of all his cases of root-filling (for this essayist appears to fill everything "immediately") must have urgent need to revise his modes of practice in this particular, and if we remember that this ten per cent of failures must be nearly all included in those having putrescent pulp, foul canal or blind abscess, making the proportion of failures probably at least twice or three times as great for those, we hardly need stronger argument against immediate root-filling as a universal practice, than this confession by one of its advocates.

We find a few teeth with dead pulps that are so free from decay as to make it certain that the pulp chambers have never been opened. We do not always feel called on to disturb them, but frequently we do. In most sepsis is plain enough, and they must be treated accordingly. Some appear to be aseptic, but are not really so, and the proportion in which we may be so sure of it as to fill immediately, is rather small.

The immediate filling of teeth with abscess having fistulous opening relates to the disinfection of the pulp chamber and canals, as in all other cases involving sepsis, and to the convenience of using the root canals as channels for the conveyance of force or pressure for the evacuation of the abscess cavities, or the introduction of medicines.

There are many teeth in which the foramina are so small as to be useless for these purposes, and they may as well be closed as soon as disinfected, but there are many others in which the root canal and the fistula furnishing openings at both ends of the abscess cavity and make it possible to give them much more thorough and successful treatment than would be if the canals were closed. This is so much so that a very large proportion of them will get well after one thorough treatment, and many operators feel so sure of that as to fill them at once, but some of them will not get well after one treatment, and it is just as easy to find out whether they will before we fill them as afterward.

Immediate root filling is theoretically impossible. Even when practicable, if circumstances require it, there are still less in which

it is clinically expedient. Many careful and cautious operators, who can control their patients, will seldom practice it. Others, more bold, or whose practice may make it more necessary, will do so very often, but all should draw the line, strictly, at those teeth having the entire pulp canals in a septic condition.

Disinfection of teeth is usually considered to relate only, or at least, chiefly, to the pulp chambers and canals. Occasional appearances seem to indicate instances in which the dentine itself (the contents of the tubes) has become so foul as to require that disinfection reach through its substance. It is usually supposed, I believe, that the tubuli of normal dentine are too small to admit of septic germs, but they certainly do sometimes admit freely the products of decomposition, as is evident by the great change of color. Of course, if the dentine is to be disinfected, the time required is likely to be greater than is necessary to disinfect the chamber and canals. Some work lately done by Dr. Black, which I trust we shall soon hear about, seems to indicate that much organic matter can readily be dried out of an extracted tooth and replaced by water. That diffusibility and displacement are practicable to some extent between the foul contents of dental tubes and fluids or medicines that can be placed in the pulp chamber, is evident from what we often accomplish in the bleaching of teeth. Whether, with the tooth in the mouth, the contents of the tubes can be removed to any great extent by drying, may be doubtful. There is little doubt that the dentine will readily absorb something else to take the place of whatever portion of the tubuli contents can be dried out of them. Clinically, it is evident that in most cases we need not give ourselves concern about the tubuli contents beyond what is accomplished by the disinfectants used with direct reference to the pulp chamber and canals. Of course such medicines must not be coagulants, or we cannot expect them to accomplish anything in the disinfection of dentine.

It has occurred to me, at the last moment, that I might have saved much time by simply warning you of the great difference there is between the great State of Indiana and the equally great State of Illinois. This will more fully appear by a short quotation from a paper, and another from remarks in the discussion following it, both by Dr. J. R. Clayton, at the meeting of the Indiana State Society last June:

"For the past three years my practice has been most radically changed, arguing in the case of pulps purposely destroyed and removed, that the sooner the parts were turned over to nature for rest and restoration the better; that in case of putrescent pulps, if they were giving no trouble while in the canal, none would result

when the pulp was removed and the canal cleansed; and, furthermore, if pain had been set up in the peridental membrane, the whole cause was in the putrescence of the pulp, and by removing the cause the effect would cease, and now every pulp canal is cleansed, disinfected, dried and filled at the same sitting, and the success attained has been such that no more thought is given to the future of such operations than to the filling of the plainest molar cavity."

In the discussion he said (in replying to a question about drying roots): "The anterior roots of the lower molars and the buccal roots of the upper molars I do not disturb. I make no effort whatever to get into the buccal roots of the upper molars. I believe I have never seen an abscess on the buccal surface of an upper molar."

In Indiana, therefore, where there are no abscesses on the buccal roots of upper molars, immediate root filling appears to be a great success, and may, perhaps, be practiced with impunity. But in Illinois such abscesses are very common, and experience and observation have taught us that immediate root filling must be practiced sparingly and with good judgment. Circumstances must vary treatment.

Dental Review.

TO PROPERLY ARTICULATE A SET OF TEETH.

Having to make a full upper set of teeth, we will suppose the impression and model to have been made in the usual way. Take modeling composition, soften and flatten it out till it is about a quarter of an inch thick; press it on the model while warm, and then cut and trim to make a trial plate for the purpose of taking a bite. It should accurately fit the model. Melt a little wax around on the ridge, then press a roll of softened wax on that, and trim to what you think would be a sufficient length, then try in the mouth and carefully trim the lower edge to the proper length for the teeth; if it is not, either add to or cut away till it is found by trying in the mouth that the wax represents the proper length. This wax should be so cut on its articulating surface that all the lower natural teeth will strike it at the same time when tried in the mouth. Now remove and soften the articulating wax surface just a little over the flame, then replace in the mouth, and do not let patient bite into it till you have the head drawn well back so as to put the anterior muscles of the neck on a stretch; then have the patient bite a little on the wax just to get an impression of the

cusps and cutting edges of all the lower teeth. Next take an accurate impression of the lower teeth, from which make a plaster model, which will fit into the slight impression of the teeth made in the bite taken, and then place the whole on any good articulator which can be set to maintain the relative positions. Remove the bite, and you are ready to set the teeth to a correct articulation, and if all has been carefully done the teeth will come together properly without any subsequent grinding.

For a double set (upper and lower) make trial plates of modeling composition to take the bite on, putting a piece of rather stiff wire in the lower one to stiffen it. Wax the ridges as previously described. Place a roll of softened wax on the upper trial plate, place the lower trial plate in the mouth, being careful to see that it is in its proper place, and hold it there while putting in the upper plate with the wax on it. Do not allow the patient to bite till the head is drawn back as far as you can get it; then tell the patient to bite, and then keep the jaws closed till with one finger the wax has been well pressed on the trial plate. Mark the center or medium line on the wax. Have patient close the lips, and then take a small, straight instrument and mark on the wax the height of the lower lip. This mark should extend from one angle of the mouth to the other; you then have the line of fissure or line of lip-closure; in other words, the height of the lower lip and length of the upper to serve as a guide in making the wax models. After thus taking the bite, place each of the models in the bite so obtained, and fasten in any good articulator; then prepare corresponding wax models, which should be tried in the mouth to verify their correctness. They should come together in the mouth the same as on the articulator, and if they do not they should be made to do so before proceeding further. Take pains to be satisfied that the wax models are correctly adjusted and give a natural expression to all the facial features, observing that the lower third of the wax model is in proper proportion or length with the upper two-thirds, and be sure to produce the proper fullness over the region of the upper cuspids to give as near as possible the natural contour. Then take the upper and lower plaster models off the metal articulator, and make a plaster extension to the back part of upper model, on which place the wax models, which have been marked while in the mouth so that they can be put in the same position out of the mouth. The lower plaster model is placed in position, and a plaster extension added to fit to that of the upper plaster model. After separating these, the lower wax model is placed on the lower plaster model, and the inside space filled with wet paper, and plaster is poured over all to make the lower articulating plate to which the lower

teeth are to be set. Next place the upper model in position, and set the upper teeth to the lower ones which have just been set to the lower articulating plate, and when ready for flasking, if for vulcanite plates, saw off articulating ends. Always set the lower teeth first.

Having made double sets in this way for twenty-five years without having to do any grinding after placing them in the mouth, I think that I have some claim to the conclusion that this method is a pretty good one.

J. G. Temp'eton, in Cosmos.

PYORRHEA.

Dr. R. R. Andrews.

(Continued from page 349.)

Dr. Peirce's treatment is largely mechanical, but it is a long step in the right direction, for it not only affords relief from suffering, but measurably checks the progress of the disease. The removal by instruments of the only apparent cause of the trouble is the best treatment that has been suggested, but it falls short of real efficiency, because the remote cause of the trouble has not yet been discovered, and all treatment is therefore palliative rather than remedial or preventive. We are aware of the calcareous nature of the deposit on the roots of the teeth, which is the immediate cause of the disease, and also recognize its general similarity to the calcic deposits found on the crowns of teeth, but it was left for Ingersoll or Black (one or both) to determine that it is a deposit from the blood, and that any means adopted for its prevention must deal with causes of a constitutional character.

Following up this line of investigation, Professor Peirce has lately advanced the theory, based on analysis of the deposit, that the primary cause of the disease is a uric acid diathesis. His analysis showed the presence of the urates of calcium and sodium, in addition to the phosphate and carbonate of lime, which make up most calcic deposits.

As these salts are similar to those found in the exudations of gouty subjects, he concludes that the origin of the two diseases, gout and pyorrhea is identical, and in each case is caused by an excess of uric acid in the blood-plasma.

Now, while this is plausible, it lacks confirmatory evidence. In the first analysis given, only three specimens had been examined, and of these but two showed the presence of uric acid in any appreciable quantity. In the second analysis, made by Professor Brubaker, "six or eight specimens were examined, in three of which

only urate of soda crystals were found." It will thus be seen that at most but eleven specimens had been examined, and of these only five, or less than one-half, gave positive evidence of the presence of urates.

Certainly, the number of analyses was entirely too small on which to base a theory, and their results too unfavorable to serve as confirmatory proof. In describing the difference between serumal and salivary calculus, he speaks of the former as being general and the latter local in its origin. Now, to my mind, if one is systemic, the other is also, for the saliva must receive its calcic constituents from the blood, since there is no other source from which they can be derived. Both forms of calcic deposits being therefore derived from the blood, the one directly and the other indirectly, through the medium of the saliva, the experiments would have been more complete and of greater value had both varieties of the deposit been examined for urates. It is possible that they would have been found in each, and in such event would hardly have been considered confirmatory of the theory advanced.

If it should be granted or proved, however, that the exudations and deposits are the same both in gout and pyorrhea, and their origin similar, we ought to find the two diseases—or rather the two manifestations of the same disease—commonly associated in the same individual. Is this so? Though Professor Peirce and some others think they have noticed this relationship, we seriously doubt if it often exists.

That both should be found occasionally in the same individual is not a wonder, for gouty manifestations are far from uncommon, and pyorrhea is multiplying its victims very rapidly; but two diseases of totally different origin are frequently found in the same individual.

To prove a common origin, they would both have to be amenable to the same line of treatment, and till the identity of the two conditions is thus established, we must class ourselves among the doubters or unbelievers in the theory advanced. In all the cases of pyorrhea that have come under my observation, I have found few in which gouty manifestations were present, while the number of individuals suffering with gout, unattended by symptoms of pyorrhea, is large. The experience of others in this respect may be different from mine, but having lived to see so many theories based on a slender foundation first accepted, then investigated, and finally disproved and discarded, I, for one, have come to the point of requiring for the acceptance of any new theory a stronger array of facts and confirmatory evidence than has been presented by Dr. Peirce in support of his hypothesis.

M. L. Rhein: If Profesor Peirce intends in his latest papers to set up the claim that all genuine pyorrhea have this source, I must differ with him. I do not, however, understand him in this way, but merely that he has picked out one of the most frequent causes of the disease, and endeavored to prove by chemical analysis of the deposit on the root that it is a result of the faulty metabolisms of that particular system.

Has he proved to our satisfaction that such patients have uric acid in some form in the deposits, and that patients free from pyorrhea have no traces of uric acid in their salivary deposits?

I am in doubt how to answer the question. A half-dozen birds do not make a flock, neither will a few isolated chemical tests definitely determine a disputed point in pathology. I believe an exudation of urea in rheumatic or gouty subjects would proceed through the pericemental tissues. Can we not find this same exudation of urea in comparatively healthy people? If any one chooses to place firm reliance in the three uric acid tests stated by Professor Peirce, then we will be obliged to form the opinion that uric acid is a natural constituent of all calculary deposits on roots of teeth because the test No. 2, the dry or destructive distillation test, will produce as its result free ammonia gas, NH_2 , on any specimen of calculary deposit that may be used from the healthiest of mouths. This is not a fair test, for it is impossible to obtain deposits around roots which will not contain organic matter, and as a result there is present nitrogenous substance which will invariably give out the ammonia fumes. Finding one of Professor Peirce's three mainstays as weak as this, it behooves us to corroborate his experiments with care and multiplicity before we come to a conclusion as to whether uric acid is found in some calculary deposits and not in others.

The general attention which it is receiving at the hands of the profession is due to the majority of dentists knowing so very little about how to make a differential diagnosis in diseases of the oral tissues. We have no right to undertake the treatment of a case of pyorrhea alveolaris without first subjecting the patient to an examination so careful and critical that the condition of the vital organs are clearly set before us. Such an examination properly made will as certainly bring about a proper diagnosis of that particular case, and if we find the urine loaded with urea products, we can safely write in our record books pyorrhea rheumatica, but no more safely than we can in another case write pyorrhea diabetic, or pyorrhea pericardial, etc.

In plainer words, my investigations have led me to believe that the etiology of pyorrhea varies, depending on any disease

that is powerful enough to bring about abnormal metabolism; and as we have pus exuding in all these cases, the most appropriate nomenclature is to retain the word pyorrhea, adding as its adjective the disease which is the direct cause of the perversion of the nutrient function.

When Professor Peirce states that in these hematic types the deposits commence on the end of the root and proceed to the neck of the tooth, he makes a remarkable assertion; he offers no proof to back it up, and it is contrary to the observations of all my friends that I have discussed the subject with. Many cases have come under my notice which, at first glance, would tempt me to say this deposit had commenced at the end of the root, but a more careful examination invariably caused me to change my mind.

To close, I would say that with me the question of etiology is not one in dispute; my only regret is that all of the profession have not eyes opened wide enough to see clearly. There is, however, a vital burning issue in the treatment of pyorrhea, and it consists of this: How shall we restore lost tissue?

Dr. Albert P. Brubaker.

At the outset it should be made clear as to what pathological condition is embraced by the term pyorrhea. According to Dr. Peirce, and with him I fully agree, it is not that pathological condition which, beginning at the gum margins as a simple inflammation, advances toward and involves the pericementum, and even leads to the formation and discharge of pus. This is a purely local condition, though capable of being aggravated by vitiated systemic states, established by the deposition of salivary salts, on the removal of which the inflammatory process subsides. This form of pyorrhea is not to be confounded with that specific inflammation of the pericementum which begins at or near the apical extremity of the root, and which is attended by the formation of pus, the absorption of the alveolar process, and the eventual loss of the teeth. This inflammation is of constitutional origin, established by the deposition from the blood of specific matters which chemical analysis has shown to be calcium and sodium urates and free uric acid. The chemical character of these salts is proof positive that their deposition is indicative of a constitutional or nutritional disorder. Owing to the difficulty experienced in removing this deposit, and owing to the fact that it is as constantly being renewed, the inflammation and its concomitants have resisted all local treatment which has been employed.

Now, it is this chronic, persistent, destructive form of pericementitis, which is to be regarded as an expression of the gouty

diathesis. This differentiation of the pericemental inflammations into two distinct forms—one local, the other general—must be clearly recognized to comprehend the pathology and treatment of the disease under consideration.

That the pericemental membrane, the vitality of which has been lowered by mechanical or chemical agencies, may become the seat of uratic deposits is in harmony with pathological processes occurring in other portions of the body.

The mucous membrane of the bronchial tubes, the vitality of which has been impaired by various causes, may become the seat of uratic deposits, which will give rise to a persistent inflammation, attended by increased and altered secretion, which resists the customary therapeutic means, and yields only to an anti-gout treatment. The mucous membrane of the pharynx, from the deposition of similar materials, will become the seat of an inflammation which is characteristic. The gouty throat is easily diagnosed. At times small masses of calcium urate are discharged from the mucous follicles of the mucous membrane. Many other instances might be cited confirmatory of this view. Looking at all the facts, it is readily conceivable that the pericemental membrane is just as susceptible to uratic deposits as any other tissue, and that a gouty pericementitis (otherwise pyorrhea) finds its analogue in gouty bronchitis and gouty pharyngitis.

It is needless to say that in all these instances the patient was the victim of that perverted nutrition which is known by the term gouty.

That this form of pyorrhea which Dr. Peirce regards as an evidence of the gouty diathesis, is so in reality is demonstrated by the fact that the deposit is similar in all respects to deposits found in other tissues, the seat of inflammation long since recognized as of gouty origin. The objection that patients suffering from this persistent pyorrhea are not always gouty is only valid when it has been proved that they are not gouty. The burden of proof must rest with the objectors, in view of the facts which have been adduced regarding the cause, and which will be adduced in reference to treatment of pyorrhea. The common assumption that gout is but an inflammation of the joint of the large toe or the joints of the fingers is erroneous. This diathesis may manifest itself in a multiplicity of ways. Nervous disorders, cutaneous inflammations, visceral derangements innumerable may be established by the deposition of uric acid salts. The diagnosis of these gouty manifestations is only possible with those clinicians who have familiarized themselves with the protean character of this diathesis. It is a fair assumption, and one supported by observation, that the

large majority of pyorrhea patients present other symptoms of gout. A careful examination of the patient's physical condition and an investigation into his family history will frequently, if not always, disclose some gouty manifestation.

In dental as in general medicine, the specific character of any given pathological condition may frequently be inferred with a reasonable degree of certainty from the results of specific treatment. If some obscure chronic inflammation, which has resisted all forms of medication, should yield and disappear under the administration of quinin, mercury, or colchicum and the alkalies, it would be a fair assumption that the underlying cause of the morbid state was the malarial, syphilitic, or gouty diathesis. If a chronic inflammation of the pericementum, after resisting local treatment for months and years, should yield and disappear under an anti-gout treatment, the practitioner would be justified in regarding the disease as a manifestation of gout. Now, the facts which have been elicited by Dr. Peirce in the treatment of pyorrhea support this view. An outline of the treatment adopted by him has already been published. A detailed treatment with the result is forthcoming. It is only necessary for me to say that it is strictly along the lines of dietetic, hygienic, and medicinal means adopted by clinicians in the treatment of all forms of gout.

Edwin T. Darby: I am not yet prepared to commit myself to the theory which Dr. Peirce has advanced as to the cause of pyorrhea. I am free to admit that he has made suggestions which look reasonable, and I shall not be greatly surprised if, before many months shall have passed away, additional proof will be furnished which will confirm his theory. As yet he has not proved that uric acid is always present in the deposits to be found on the roots of teeth in which pyorrhea has been known to exist, nor has he proved that uric acid is not present in the mouths of persons who have no disease of this character or in whom there is not known to exist a gouty diathesis.

Of late the disease known as gout is made to stand as godfather for so many conditions that I sometimes fear we may overreach and make it appear that nearly all our imperfections are the result of the uric acid diathesis.

The medical profession of America is recognizing a peculiar condition of things in the American people which does not exist to the same extent in any other nationality, and which is doubtless the result of our mode of living, and which they have denominated "American gout." It is not the gout of England, which it has been thought was the result of port wine and beef, and which began in a man's big toe and made him wish he were dead, but it is the

gout of malnutrition, and this is the result of a nervous exhaustion from overwork and under-feeding. I do not mean by this that food enough does not enter the system, but it is the inability of the system to properly appropriate that food, whatever its character, that loads the system with uric acid. So far as I can learn, uric acid has never been found in the saliva; hence uric acid would not be found in salivary calculus, but it is nearly always present in the blood of gouty subjects, hence it might be found in the serumal deposits at the apex of the roots of teeth which have been lost by pyorrhea.

I am strongly of the opinion that Dr. Peirce is right, and I am also of the opinion that his description of the progress of the disease is correct. Pyorrhea is not a disease beginning at the gingivæ and the result of a local irritation, but a general condition, and I believe we shall soon know that it is accompanied with a gouty diathesis.

BEES-WAX AS A ROOT CANAL FILLING.*

Dr. J. H. Collins, Granville, N. Y.

The canal should be prepared as for any root filling. Of course, it should be made aseptic before any filling is introduced. I then take a small piece of bees-wax and roll it between thumb and fingers till I have a small round piece about one-quarter inch in length, I have four or five of these laid on a mixing slab or mirror, or anything cool (if it be a warm day), otherwise on anything handy. Dry the canal thoroughly with cotton on broaches, then with the hot air syringe. Heat the tooth till it is fairly bleached, and then to make sure that the upper end of the canal is dry, insert a good-sized broach or small steel wire, heated red hot, just as long as there are indications of moisture which will be known by the hissing when the hot wire comes in contact with it. This treatment thoroughly kills all traces of living organisms, micrococci, bacteria, or any other bugs which might remain after your treatment with bichlorid, peroxid, or whatever you may use in the canals to make them aseptic.

Now, having your canal dry and hot, take one of the small pieces of wax in a pair of pliers and insert it into the canal, gradually forcing it as it becomes warm. When it is all in, follow it with one of the broaches or wire again heated red hot, which fries it into every tubuli, and the wax will follow the wire to the apex; then use the hot air syringe again, immediately following it with

* Read at the Vermont State Dental Society, March, 1894.

another piece of wax, and before this becomes cool introduce a few shreds of cotton, which will form a ball and force the wax more solidly ahead of it. Then fill pulp cavity and chamber with what you wish. The wax makes a firm, impervious filling that neither shrinks or disintegrates, and if some of it goes through the apex it is tolerated by the membrane, where it becomes encysted. Four or five years ago I had a central that had a fistulous opening, had been discharging for two or three years, the apex had become considerably enlarged. After getting the root thoroughly treated and filled, as here directed, I looked at the fistulous opening, through which I had passed peroxid of hydrogen and bichlorid and was surprised to find a plug of the wax protruding through it, which, with an excavator, I removed to the process, the tooth remaining quiet ever since. Last May, at the annual meeting of the New York State Dental Society, Dr. Palmer, of Syracuse, a man ripe in experience, thinking he had something new, told the society he was experimenting with wax and paraffin for root fillings. He had small glass tubes which he would heat and draw the ends till they resembled the apex of a root; he would then warm them with the hot air syringe or an electrode, then put in his wax, and through the glass he could see the wax melt and follow to the end of the wire; he also used the Evans root drier with as good success.

Immediately after the session I had a talk with him and told him of my experience; he was quite well pleased, and assured me he would continue the use of wax as long as he got as good results as he had experienced; adding that for several reasons it was the best filling for root-canals he had yet found. It is easily removed, should necessity require, and when it is your canal is free from the odor attending one filled with gutta-percha, or any other filling that I have ever been called on to remove. If by accident the crown gets broken off, the root is still filled and you can easily enlarge the lower part of the canal for a crown without having to drill out a lot of gold, amalgam or oxichlorid and still know that the apex is hermetically sealed. This is the method I have pursued for ten years with satisfactory results.

Ohio Journal.

The hypnotism fad will do one thing for those who intelligently try to avail themselves of the benefits of "suggestion," viz.: It will teach operators kindness and sympathy, without which hypnosis is seldom exhibited. We suggest that every operator cultivate that quiet kindness and interest which begets confidence, and let hypnosis alone.

Western.

EXTRACTS FROM "BELL'S TEETH AND MOUTH."

The stomach may be compared to a stove; the food to the fuel consumed in the stove; and the life to the heat given off by the glowing coals. The stomach is an excellent stove, and will burn much bad fuel. But have a care lest it rebel, and the fire be extinguished. To maintain a vigorous and sustained vital glow, the food taken into the stomach must be thoroughly ground by the teeth and mixed with the saliva, and it must not be mingled with deleterious accumulations in the mouth.

Good health demands thorough digestion; thorough digestion demands thorough mastication, and thorough mastication demands sound teeth. Abscessed roots and decayed teeth, inflamed mouth and vitiated saliva, are poorly fitted to supply the stomach with food that can be properly digested and assimilated.

Abscesses, with agonizing pain, necrosed jaws, and disfigured face, with tumors and foreign growths, frequently result from a neglected mouth.

Diseases of the eye, ear, and the cavities of the head, often the most difficult to diagnose, may be traced directly to an unhealthy condition of the teeth. But a short time ago I was visited by a young lady whose eyes were so badly affected she could see only with difficulty. Medical treatment had failed to relieve her. Having trouble with her teeth, she found it necessary to consult the dentist. With the curing of her dental troubles her sight was restored.

I have seen the most robust persons shattered in health by dental troubles. Who is not familiar with the acute suffering with which the development of an abscess, or the swelling of the gums or face, is accompanied? The pain is not only agonizing, but the general health is affected. Surgeons and dentists are daily called on to perform operations for the removal of necrosed portions of bones and tumors of the most formidable character, and sometimes for the removal of the entire jaw, all by neglect of the teeth. There is not a disease to which the entire body is liable that is not aggravated by an unhealthy condition of the teeth.

It is marvelous to see how persons will spend money in the most extravagant manner for outward show, or will wear away the best part of their lives in the accumulation of wealth, and yet give but a few thoughts or pennies to the preservation of health. But there will come a day when disease will have so wasted their system as to place its recovery beyond the best professional skill. Then they will realize the full consequences of their neglect.

DEATH AFTER TAKING GAS.

At the City Coroner's Court, Mr. S. F. Langham held an inquest with reference to the death of Frank Lee, aged 25, manager to a colonial merchant, and lately living at Crowhurst Road, Brixton. Henry Creasy, dentist, 88 Newgate street, city, deposed that on Monday the deceased came to consult him with reference to having a tooth extracted with gas. He appeared to be in good health, and was put under gas by Dr. Adams, of Aldersgate street, who had previously examined him. He seemed to take the gas very well, and witness extracted the tooth. He went on breathing for about a third of a minute, and then the breathing became stertorous. The doctor at once pulled the deceased's tongue forward, and he was afterward taken out of the chair and artificial respiration was resorted to. Ether was also injected, but finding that artificial respiration was of no avail, tracheotomy was performed. This also proved unsuccessful, as the throat was full of mucus, which seemed to impede breathing. After half an hour's work artificial respiration was given up, the deceased being found to be dead. Witness had carried on business in the city for the last twenty years, and had been in the habit of extracting teeth under gas during the whole of that time. Dr. Adams had always administered the gas, and with successful results.

By the Coroner.—The deceased, in witness' opinion, was an exceptionably good patient for gas. Dr. John Adams, 180 Aldersgate street, stated that he had administered gas at Mr. Creasy's establishment during the last twenty years, and had to deal with about 40,000 cases. Of that number the present case was the first that had proved fatal. He saw nothing about the deceased to attract suspicion that he was not in a fit state to undergo the administration of gas. He seemed exceptionally strong. Dr. Norman Moore, lecturer on medicine at St. Bartholomew's Hospital, who had made the *post-mortem* examination, stated that all the organs were healthy, but he found no air in the lungs and they were engorged with blood. There was also much thick mucus in the bronchial tubes, and death was caused by asphyxia. In reply to the coroner, Dr. Moore said he believed that everything had been done for the deceased that was possible. The jury returned a verdict of "Accidental suffocation," and added that no blame attached to the dentist or to the doctor.

Dental Record.

[We have had two accidents from gas where no gas was given. That is, the severe syncope after extraction would certainly have been charged to gas, if any had been given.—ED. ITEMS.]

THE CRACKING OF TEETH IN SOLDERING.

L. P. Haskell, D.D.S., Chicago.

In my own experience, and taking no pains to avoid it, I do not remember the time when I ever had a tooth crack.

Perhaps a few suggestions may not be amiss. If dentists would consider that "cross" pin teeth are more apt to crack than the perpendicular or "straight" pin teeth, they would use fewer of them. They are not only more liable to crack in soldering, but are not as strong for wear. This fact is so apparent it has been a great wonder to me that at the dental depots, when inquiring for "straight" pins and wondering there were so few, I am told that "the dentists all ask for 'cross pins.'" Use less of them, gentlemen, and you will have fewer cracks in soldering and less breakage in wear.

Do not rivet your pins, as the solder flows only on the head of the pin; split the pin, and if the hole is larger than the pin, so much the better, for the solder flows down inside and holds the pin stronger.

Never heat up the case till the borax and solder have been applied. Heat up over the large burner, slowly at first, and then turning on the full head; take about one-half hour. The heat should (in a plate) be thrown by the blow-pipe on the plate first, so that it may be as hot as the backings, as they will easily heat up from their exposed position. Then throw the heat directly on the solder. If necessary to apply more solder do so, but not more borax, as there is danger of cracking the teeth.

Many dentists experience much difficulty in soldering by using the miserable little jewelers' blow-pipes, which are not at all suitable for dentists' use, there not being a sufficient volume of flame, and the mouth aperture being so small it has to be taken inside the lips, thereby causing the muscles to become tired. To remedy this I induced the dental goods manufacturers to make a larger blowpipe—the mouth-piece to be pressed against the lips—which makes soldering much easier.

Another difficulty is found in not having a suitable soldering burner. Formerly I wound fine binding wire over the end of the gas-pipe so as to break the force of the gas-jet. But I am now using a burner made for the purpose, which some have called the "Haskell burner." Many use the automatic blow-pipe, but I have found that beginners succeed better with the blow-pipe I have described, and for my own use I far prefer it.

THE TREATMENT OF PERICEMENTITIS.

Probably one of the most painful affections with which the dentist has to deal is that of acute pericementitis immediately preceding alveolar abscess. This is easily accounted for when we consider the anatomical relations of the tissues surrounding the root of a tooth. The pericementum is encased in a bony socket with unyielding walls on either side, and a slight degree of inflammation results in an undue amount of pressure. From whatever causes pericementitis may be induced there sometimes comes a stage when no kind of treatment directed into the pulp chamber and through the canal is in the least effective. It is to the consideration of this phase of the affection that I wish briefly to call attention.

In those cases where the canals have been opened up and a free vent made for the escape of gases, and this has failed to bring relief, it is an indication that the tissues of the peridental membrane have become so far implicated that the inflammatory process will go on independent of further irritation. This has always proved in my hands the most difficult stage of the affection to control, till within the past two or three years. During that time I have followed a practice which, if faithfully carried out, has seldom failed to give satisfactory results. The treatment consists in the application of moist heat to the gums surrounding the affected tooth.

The method of procedure is as follows: Water as hot as can be borne is taken up in a large bulb syringe having a fine point. A jet is thrown on the gums and into the cavity of the tooth, all cotton or other dressings having previously been removed from the canals. The tooth and surrounding tissues are thus submerged. During the refilling of the syringe the water is to be retained in the mouth and then emptied into the spittoon just previous to another application. The water should be kept on a gas stove near at hand, and the heat gradually raised as the tissues will admit. It will be found that in the end water extremely hot may be used if the heat be gradually increased, and one of the essentials to success in this treatment is to employ an exceedingly high degree of heat. If the tongue and other tissues of the mouth remote from the region of the tooth are too much affected by the water, a saliva ejector may be used to carry off the water after it has flown over the gum in the immediate vicinity of the inflammation. The gum in this region will often tolerate a much higher temperature than the normal tissues. In fact, an application so hot as to be extremely painful to normal tissue often proves instantly

soothing to the affected parts. The process should be kept up till perfect relief has been obtained, and the length of time necessary for this varies in different cases. In some instances where the pain is most distressing prior to the application the sense of relief will appear so suddenly as to prove astonishing, while in others it will require persistent treatment for perhaps thirty or even forty minutes before a substantial effect is produced. I have never yet encountered a case where persistent effort failed to finally bring a cessation of pain. As to the permanency of the relief, this is governed largely by conditions and circumstances.

If the general tone of the system is bad; if there is universal congestion strongly marked by the symptoms of what is commonly called "a heavy cold;" if the circulatory and absorbent systems are badly out of condition; or if the excretory organs fail to perform their function, then the relief is necessarily temporary, and we must resort to constitutional treatment in order to gain permanent results.

A patient in this condition should be given a rapidly acting cathartic, the citrate of magnesia in large doses having proved in my experience the most pleasant and satisfactory. Again, if the inflammation has gone on to a point where suppuration has begun in the apical space, we cannot hope for complete relief till the abscess has pointed and discharged, but even in these cases we may be reasonably sure of preventing extensive infiltration and puffing of the superficial tissues, and also of mitigating the suffering.

As to the circumstances which may render the relief temporary, I have noted that if the patient left the office immediately after the hot water application, and went into the open air on a cold day without carefully protecting the whole side of the face from the air, the pain would ordinarily recur. In other words, exposure would bring back the trouble. But not the least among the gratifying results that have followed this line of practice in my hands is the large per cent of cases where a permanent relief has been gained.

A criticism might be made by some as to the advisability of leaving the cavity and canals open during the treatment. The argument might be used that there was danger of additional infection through the medium of the open canals, but I have never seen a case where I could trace any evil effects to this cause. My reasons for leaving the canals open are, that I wish the hot water to reach the apical space if possible, and that there may be a likelihood of the water, in flooding the cavity and canals, floating to the surface or dislodging small particles of debris that may have been packed in the canals near the apical foramen, and which the broach has failed to bring away. I never leave the cavity open when I dismiss the

patient. If the tooth is not too sensitive to pressure I usually dry the canals as thoroughly as possible after the pain is relieved, and then flood them with an antiseptic. A small pledget of cotton saturated with the antiseptic is then placed loosely in the chamber, and the cavity sealed with Gilbert's temporary stopping.

The canals themselves are never packed with cotton at this sitting, and if the tooth is much raised in its socket, and extremely sensitive to pressure, I do not even attempt to seal with gutta-percha. A tooth in this condition should be worked on with instruments as little as possible. The mechanical irritation invariably results in increased sensitiveness. .

When the tooth is loosened and sore from swelling of the pericementum, I simply dry the canals, flood them with an antiseptic, and place some cotton in the cavity merely to keep food and debris from packing into the tooth. I should much prefer dismissing the patient in this condition and taking chances of infection through the imperfectly sealed cavity to attempting a thorough sealing at this sitting. These are mostly emergency sittings, and our principal office is to relieve the present distress. Usually in twenty-four hours the tooth will be in a condition to work on, and it may then be treated and sealed.

The simplicity of the hot water treatment would seem to argue that the case could as well be treated by the patient in his own home as by the dentist in his office, but my experience has taught me that the results are seldom satisfactory. Somehow patients do not succeed, no matter how careful the instructions. They do not use the water hot enough, or they do not apply it properly, or do not keep up the application a sufficient length of time.

In fact, the element of time in this treatment proves one of the greatest obstacles to its practical application. As has been stated these are emergency cases, and are likely to call for attention at any hour through the day without previous appointment. In a full practice where almost every moment of every hour is systematically assigned in advance for the regular routine work of the office, it is exceedingly trying to the operator to be called away from his work to devote any considerable time to an unexpected patient. In those cases where I have fallen short of producing the most satisfactory results it has been traceable to this dilemma. And yet a dentist's first duty as a practitioner and as an individual is to relieve suffering no matter when or how it appears.

In searching for a theory to account for the results obtained by the application of hot water I was led to consult Dr. W. T. Belfield on the subject. I then learned for the first time that he had long been a strong advocate of hot applications for the relief of

pain in other tissues. His theory was that heat, especially moist heat, was an anesthetic. This would account for the relief of pain temporarily, but if this were the only action of hot water the pain would recur in a short period. To account for the permanent results which I claimed to have undoubtedly secured in many cases, he said that hot water applied in the manner I had indicated would prove a very rapid and effectual absorbent. It is to this latter quality that I attribute the lasting results, and this argues especially for a somewhat protracted application.

Dr. Belfield also stated that in the use of hot water, a very minute stream should be used to play on the tissues. A jet such as would come from a hypodermic needle he had found more effective than a larger stream.

In conclusion, I may add that in some cases where the pain has been excruciating, I have added to the hot water a few drops of carbolic acid, making about a five per cent solution. The anesthetic effect of carbolic acid is thus added to that of the hot water, and the relief is exceedingly prompt and very gratifying to the patient. Hot water is also excellent for after pain and hemorrhage.

C. N. Johnson, in Review.

THE ART OF THINKING.

In writing on the subject of thinking and reading, Dr. T. B. Welch says truly, that it is easy and entertaining to read an article which tells you something which you knew before and which you can endorse, but you learn nothing by reading it. It often requires an effort to read an article which contains real information, however plainly expressed. It has to be studied, applied, digested, criticised; the suggestions raised by its perusal have to be followed out to their conclusions; and to conscientiously read an article of this character is a task which some men are inclined to shirk, just as a lazy man might shirk a physical task. But compare the man who shirks with the man who reads, and you will find the first a mental bungler, the second the acute and able thinker, the man whose head saves his hands, and who is valued, respected, and trusted with the conduct of work and administration of affairs, and rewarded accordingly. Always read a little ahead of yourself. Read matter which requires effort on your part to understand. The effort will not only place you on a higher intellectual plane, but the mental exercise will develop a habit of accurate thinking which will be of more value to you than volumes of average matter read only to be forgotten.

International.

DENTAL SCIENTIFIC WORK.

A few years ago dentistry had no scientific basis. It was a mere handicraft, which, from the point of view of its present development, was a rude one. The results of scientific investigation in dental histology, pathology, materia medica, therapeutics, chemistry, and hygiene have completely revolutionized the practice, and modern dentistry is what it is to-day because of the leaven of scientific workers in its ranks who have developed it from its crude beginnings. Too often the criticism is made by the so called and generally self-styled "practical" man that this scientific work in dentistry is no doubt all very interesting to those who like it, but there is nothing in it for the busy dentist to put to actual use in his everyday practice. Such criticisms arise from ignorance of the facts, or a very narrow view of them, and need no further refutation than reference to the scientific reasoning and research in bacteriology which gave to the world the practical procedures of antiseptic surgery, or the elaborate theoretical chemical reasoning which developed, besides the entire series of coal-tar colors, nearly a whole materia medica of synthetic drugs and therapeutic agents. In dentistry itself whatever of certainty and exactitude appertains to therapeutics, or of precision and successful adaptation has been achieved in dental prosthesis, may be safely credited to the scientific investigation in the departments of chemistry, physiology, bacteriology, pathology, physics, metallurgy, and mechanics which has contributed to the perfection of our methods. What we need in dentistry is not more of the so called practical, by which is meant the strictly empirical, but more of the essentially scientific, which is the only truly practical; less of mysticism and rule of thumb, and more of the rational and the exact. Reports of dental discussions, periodical dental literature, and dental standard works are replete with statements and arguments based on mere speculation, with no foundation of fact beyond that constructed in the brain of the originator. Only comparatively rarely are reports or statements made which are founded on original research or experiment, or even on accurately observed individual phenomena. When it is considered that only such matter can possess any scientific importance or lasting value, it must be evident that we are wasting time and energy in giving it attention.

It is not given to all men to be scientific investigators in the broad sense, but it is, after all, largely a question of degree, for every one is, or should be, capable of observation, and of the ability to correctly interpret and report the result of such observation is simply a question of practice and training.

To properly observe and interpret selected phenomena is the initial step in scientific investigation, and it is the ability to correctly reason and generalize on the results so obtained which constitutes the scientific method of thought. It cannot be successfully gainsaid that whatever of substantial progress has been made in dentistry has been achieved through applications of the scientific method to the study of its phenomena, proper regard being had for what in reality constitutes the scientific method. The period of its growth in which empiricism and reasoning of the phrenological order held exclusive sway in dentistry has passed, and henceforth a respect for the uncompromising requirements of scientific exactitude must govern its procedure, rather than faith in the *ipse dixit* of self-constituted authorities or in the plausible claims of the nostrum-vender.

The application of the laboratory method in dental education, the introduction of the technic method in our schools, by bringing the instruction in operative and mechanical dentistry and therapeutics into line with the laboratory method as utilized in the departments of pathology, chemistry, and histology, is a most important step toward cultivating a scientific habit of mind and a desire for original research among the dental students of to-day, which must tend to elevate our standards and ideals, and react favorably on future methods of practice. It is equally important that those already in active practice should cultivate the same tendencies, not only for individual benefit, but for good of the profession. Each man owes it to his calling to devote at least a fair proportion of his ability to the advancement of that calling, and it cannot be better done than by the pursuit of some line of research which shall translate something of the unknown into terms of the known, and publishing the result broadcast for the benefit of his colleagues.

Editorial, in Cosmos.

I am specially pleased to report, so far as my experience goes, that we have in trichloroacetic acid an unequaled remedy for apthous stomatitis or canker sore mouth. These mucous patches are often quite painful, and annoying to both patient and operator. Ordinarily, one or two applications will be sufficient. In extensive cases, patients may be given a small bottle, and apply it for themselves. It seems to me that we can do the medical profession no better service than to call their attention to this remedy as a "specific" in this class of lesions. One application is sufficient to stop further progress, if used on first appearance of the lesion. I say this with considerable confidence, because I have succeeded where the physician has failed.

J. A. Dunn, in Cosmos.

THE SEMI-CENTENNIAL OF THE DISCOVERY OF ANESTHESIA.

The year 1844 gave to surgery one of the greatest booms ever conferred on suffering humanity. The discovery of anesthesia marked a distinct era, and the credit of it, by universal consent, belongs to dentistry. As in the case of all other great discoveries, a number have claimed to originate it, but the consensus of opinion has awarded to the dentist, Horace Wells, of Hartford, Conn., the honor of first demonstrating it, and his name is enrolled among those highest in the temple of fame as being one of the greatest benefactors of any age. This is the semi-centennial year of its discovery, and dentistry should not miss the opportunity of reminding the world of the debt which it owes to a member of the young profession. Dentists themselves use anesthetic agents largely in their practice, and they would be recreant to duty and prove themselves ingrates if they did not in some way mark the occasion by a fitting observance of the anniversary.

The Odontological Society of Pennsylvania took action early in the year by appointing a committee to take this into consideration. The Dental Society of the State of New York, at its annual meeting early in May, appointed a committee to take action on the part of the dentists of that State. The Connecticut State Dental Society, at its annual meeting, passed resolutions, and appointed a committee to arrange a semi-centennial celebration, and other societies will doubtless take similar action.

But the subject is too great and too comprehensive in interest to be monopolized by any single body of men. Every dentist throughout the world is concerned, and should have an opportunity in some way to assist in celebrating an event that must be to him a subject of personal pride. But the time is limited, and whatever is to be done must be done quickly. Half the year has flown without any general organization having been effected, and unless immediate action be taken the most momentous event in our professional history will not receive the attention it demands.

In this emergency we take the liberty to suggest that every dental society in the land, as far as possible, appoint delegates to meet at Old Point Comfort at the time of the annual sessions of the American and the Southern Dental Associations, there to agree on some concerted plan of action. It is no time for any elements of personality to enter into its consideration, or for any claims of priority in conception to be urged. Let us as one man unite in honoring ourselves and our profession by doing honor to the

memory of the man who did so much to honor us. We sincerely hope that there will be a unanimity of feeling among us, and that every dental society, especially every State organization, will through its proper officers appoint a committee to meet at Old Point Comfort, Virginia, in August next. We commend the subject to our brother editors of dental journals.

Advance Editorial of Dental P. and A.

LUBRICATE YOUR DISKS AND STRIPS.

We see so many dentists still using sandpaper disks and strips in finishing fillings without vaseline or oil to lubricate them, that we feel like once more calling attention to this matter. It is a censurable species of inhumanity to run a disk dry on a gold filling, or to see-saw a strip back and forth between teeth without using a lubricant. A disk or strip will not heat up so rapidly if covered with vaseline, and contrary to prevalent opinion, the cutting properties will be improved. Quite often the question is asked by those who never use a lubricant: "But will not the vaseline or oil prevent the sandpaper from cutting?" A careful test of the matter will prove to these men that their impressions are wrong. If there were no other recommendations for the use of lubricants than the one of increased cutting power, this would be a sufficient inducement to always employ them. When disks are used with the rubber-dam in place, it is extremely difficult to prevent a dry disk from catching up the dam in its revolutions and tearing it, but a disk well lubricated will play over the dam with little danger of a mishap. Another recommendation lies in the fact that when well smeared with vaselin a disk becomes flexible and can be pressed into depressions and be made to cut at any desired point by guiding it with an instrument.

This latter consideration is very important wherever a disk is employed between teeth for finishing a filling. If a proper contour is to be left to the filling, it is necessary that the disk shall cut only at the cervical portion of the filling and not at the contact point. A flexible disk may be pressed against the neck of the tooth if desired and all the cutting confined to that region, but a dry disk will almost invariably cut away the contact point and make a flat filling. The variety of curves to be given a flexible disk in cutting is limited only by the dexterity of the operator. In this condition it will hold the fine particles of gold on its surface, and the dentist who preserves his old disks and strips for a time, and then turns them over to a refiner for melting, will be surprised at the result.

Dental Review.

OUR QUESTION BOX.

With Replies From The Best Dental Authorities.

[Address all Questions for this Department to Dr. E. N. Francis, Uvalde, Texas.]

Question 151. *An abscess, of the lower first molar, opened on the face about six weeks ago. The tooth is still in place and pus forming. What treatment is best, especially to prevent scar?*

To prevent scar, extract the tooth as soon as possible, or if free access to pulp canals and fistula can be obtained, use usual treatment for chronic abscess.

W. H. Bailey, Menomonie, Wis.

This tooth should have been extracted as soon as abscess indicated an opening on the cheek. Very little can be done, if anything, to prevent a scar at this late day.

E. P. Beadles, Danville, Va.

Extract immediately. There is no treatment that will prevent a slight scar. Wait till fistulous opening heals, then if the deformity is unsightly, perform surgical operation by severing the dense cord of new tissue which binds the skin to the bone. "An ounce of prevention is worth a pound of cure." When an abscess is about to point externally, extract or lance inside of mouth—not on outside, as I have seen some physicians do, disfiguring the patient for life by preventing formation of cicatrix.

Ira B. Archer, North San Juan, Cal.

If roots of molar will justify it, I would prepare for a crown by opening the roots freely and washing them out with peroxid of hydrogen, forcing it through the opening on face.

Follow this with a wash—clear through abscess—of a strong solution of warm alcohol. Be sure to destroy all pus, crown roots and cauterize slightly the opening on face. This treatment will leave a very small scar, if any. If roots will not justify crowning, I would extract tooth and proceed with above treatment to heal.

J. F. Johnston, D.D.S., Ruston, La.

Observation leads me to the conclusion that such discharges almost invariably leave a scar on healing. The healing of fistula forms a strong cord of new tissue with one of its ends attached to the skin, and the other to the periosteum. I should enter the tract by way of tooth, with a three per cent solution of pyrozone, till thoroughly cleansed of pus. Then, at the same sitting, by means of a rubber piston, made of ordinary vulcanite rubber, force through the entire tract a small quantity of the crystals of iodine, cut with creasote to the consistency of cream. Then I would proceed to fill roots thoroughly. Should the cord formed by healing draw the tissues toward the bone, with a tenotomy knife I would sever the cord by means of entrance made, if possible, somewhere in the oral cavity.

W. C. Davis, Lincoln, Neb.

Question 152. *A lady of good constitution has been troubled for two years with pain in left central incisor. The mesial and distal surfaces of tooth were filled with gold five years ago. The fillings are good, color good, and tooth is effected by thermal*

changes. The pain is of a dull character, coming on frequently, and the patient feels that biting on some hard substance will give relief. Is hypercementosis, exostosis, calcification of pulp indicated, or is the trouble caused by fillings? If caused by fillings, why a failure of trouble within three years after insertion?

From history given I should suspect nodular calcification.

J. A. Collier.

There is calcification of pulp, caused by continued irritation from gold fillings near pulp. Irritation was so slight for three years that patient did not notice it. For cure remove the pulp.

W. H. Bailey.

The pulp in this tooth is dead, and the tooth should be opened from lingual surface, pulp removed, and followed with usual treatment. Discoloration does not always follow the death of pulp.

E. P. Beadles.

There is ossification of the pulp from systemic causes, or it is communicated by the gold filling. Treatment: Open pulp chamber and completely extirpate pulp. Fill with chloro-percha after soreness subsides.

Ira B. Archer.

The trouble is with the nerve. It may be ossification caused by thermal shock. Remove filling on mesial surface and apply arsenic. As to why it would ache after giving three years comfortable service, there are many things in dentistry of which we know nothing, we can only surmise.

J. R. Osborne.

I do not think the pulp dead, but that the patient is suffering from dental periostitis. Apply tincture of iodine and aconite, equal parts, on a small piece of orange wood wrapped with lint. Apply around tooth under the margin of gum, then use a chip blower with hard pressure to force the medicine deep. Be sure to dry tooth and gum previous to application.

J. F. Johnston, D.D.S.

If no external cause, such as pus pockets, calcin deposits, etc., I would question the health of pulp, and would at once open the tooth at lingual pit and remove the pulp. You will probably find out one-third of pulp undergoing putrefactive degeneration, and the remainder, at different points, showing signs of inflammation—*i. e.*, at apex, irritation; a little further toward the pulp chamber, inflammation, hypoemia, congestion; and at pulp chamber, fermentative decomposition. All of which may have been of such a passive form as not to reach its present limit, but is liable at any time to develop an acute abscess.

W. C. Davis.

Question 153. (a) *What is the best means of replacing a broken tooth on a bridge without removing it from the mouth?*

(b) *If removal is necessary, what is the best and easiest method of detaching a gold cap or bridge anchorage?*

(a) Remove bridge.

(b) Manner of detaching will depend on the material cap is stayed with. If with gutta-percha, soften by heating cap; if cement, consider the surroundings and adopt the method that seems most practicable.

J. A. Collier.

(a) You cannot mend a bridge satisfactorily without removing it from the mouth.

(b) Drill into cap on top, and cut out the material of attachment—cement, amalgam, etc. Mend the bridge, solder a new top on the band, and replace as at first.

J. F. Johnston, D.D.S.

(a) If any of the anterior teeth are broken, drill holes to fit pins of new tooth, insert and rivet on under side.

(b) To remove a bridge, split crowns on one side with wedge cutters. After removal, these crowns can be easily soldered and bridge replaced.

E. P. Beadles.

To-day I ordered The Wilmington Dental Manufacturing Company to bake one dozen teeth, after model forwarded them, which, I think, will fill the bill. It is a tooth that can be easily placed on bridge in mouth. If it proves to be serviceable I will send sample bridge for inspection and opinion.

J. R. Osborne.

(a) With a thin disk cut a wide dove-tail space on lingual side of broken facing, then remove all porcelain from around pins or backing. Spread thin, hard-setting cement on backing, and press broken facing to original position. If necessary to use new facing, drill holes through backing, grind tooth to fit, cut groove on lingual side between pins, set with cement, and bend pins into groove. After cement hardens, fill groove over pins with gold.

(b) To remove gold cap, cut it with chisel on buccal side, and carefully work cap loose. When replaced on root, burnish edges together and hold them with twisted wire. Remove all with impression, and flow gold solder over joint while in investment.

W. A. Bailey.

The successful detachable bridge tooth remains yet to be invented, so far as I know. I have put on a bridge of two teeth lately that I think can be repaired easily without cutting anchors. If it proves a success, I will report in ITEMS.

All the shell crowns that I ever removed I have split off, and when I soldered and dressed them up I found it as much work as to make new ones.

J. R. Osborne.

(a) Clean away all remnants of broken tooth, drill holes through backing, grind and adjust tooth, rivet pins.

(b) Detach incisors or cuspids by grinding the gold or porcelain away at the palatal portion over the post, which, when exposed, is severed and the cement broken up. If banded, split band and pry to side. In all gold cap crowns drill hole in masticating surface and remove cement, or divide collar and pry up from root. Where gutta-percha is the attaching medium, place hot instrument against crown, or seize with heated forceps.

Ira B. Archer.

(a) I seldom repair a bridge without removing it. I sometimes drill holes in old backing for pins, and after setting with cement grind off the pins, which may be bent slightly together if holes are enlarged on the inside.

(b) To remove bands I use a small engine saw—to be had at any depot—one-quarter inch in diameter. To repair, burnish platinum foil on inside, and solder with low grade—say 14 K.—solder, placing all but part to be soldered between the halves of a freshly-cut potato.

W. C. Davis.

PRACTICAL POINTS.

By Mrs. W. J. Walker, Buy St. Louis, Miss.

Bleaching Teeth.—After filling the root-canal, place in the cavity a freshly prepared solution of sodium hypophosphite, and direct a jet of carbonic acid on it for a few moments; wash the cavity with an alkaline solution, and introduce oxichlorid at once. When well hardened make the gold filling. If the labial wall consists of only thin enamel, varnish with copal ether (using a bleached brush), and pack pure white glazed paper, without crease or fold, against the labial wall.

A. W. Harlan.

Cement for Setting Gold Crowns or Caps, or Porcelain Crowns with Platinum Pins.—Mix together, with heat and careful working, 1 part gutta-percha and 3 parts vermilion. It resists the action of the fluids of the mouth better than oxid of zinc and gutta-percha.

Wm. H. Rollins.

Dr. Christmas' Antiseptic :

| | |
|---------------------|----------------------|
| Carbolic acid..... | 6 parts. |
| Salicylic acid..... | 1 part. |
| Lactic acid..... | 2 parts. |
| Menthol..... | $\frac{1}{10}$ part. |

For sterilizing instruments, antiseptic wound treatment, etc. Soluble in 15 parts water; more readily in alcohol or ether. Used in one or two per cent solution. Retail at \$1.50 per pound under patented trade-mark Phenosalyl.

Cosmos.

Azethous Stomatitis.—One or two applications of trichlor-acetic acid acts as a specific in this class of affections.

J. Austin Dunn.

The "Simplicity" Crown.—With a stump-corundum wheel fit an old-fashioned "pivot-tooth" to the end of the root, and slightly countersink the end of the root with a smaller wheel. Enlarge the hole in the pivot tooth with a diamond drill only enough to give a roughened surface. Drill and tap the root and set an iridis-platinum How screw post. Cut a groove in the face of the root, between the pin and the periphery, and fill with copper amalgam. Fill the hole in the crown with a good strong oxiphosphate and press hard to place, crowding out all excess of amalgam and cement. Hold in position till hardened. The amalgam in the groove forms a ferrule, the excess pressed out forms a cap over the end of the root and a nut around the screw. The oxiphosphate between the dry pin and the dry crown forms a very strong cement.

S. S. Stowell.

To Prevent Nausea in Taking Impressions.—A couple of drops of spirits of camphor on the tongue will allay the sensation of nausea almost entirely, so that an impression can be taken without trouble for the most sensitive patient. *S. G. C. Watkins.*

Pyorrhea.—Equal parts aristol, tinct. iodine, oil gaultheria, oil cinnamon, carbolic acid. Put down in the pockets, working it to the bottom. Paint gums with tinct. iodine. *C. N. Peirce.*

To Prevent Thick Heavy Rubber Plates from Becoming Porous in Vulcanizing.—Dip the rubber in warm water to soften; roll it in filings of vulcanized rubber and pack as usual. Will vulcanize quicker and will not become porous even in the thickest portions. *W. S. Simonton.*

Local Anesthetic :

| | | |
|---------------------------|---|------|
| Alcohol, 98 per cent..... | f | ij. |
| Chloroform | f | iv. |
| Ether sulf | f | iss. |
| Camphor | f | i. |

Dry the gum and apply locally for one minute, buccal and lingual surfaces. *Del. Solar.*

To Steady Loose Teeth.—Ligate in proper position and imbed in oxiphosphate, making a mass around the labial and lingual surfaces. When hard, cut a groove in the cutting surface of all the loose teeth, and also in a firm one on each side, and lay in the groove a 22k. gold wire, filling in with semi-cohesive gold, malleted in. *Davenport & Rhein.*

Immediate Root-Canal Filling (with Putrescent Pulp).—Cleanse the canals and fill with a paste of diaphtherin and oil of cloves (or carbolic acid) and close the cavity with cement. *John Berger.*

Pyorrhea.—The treatment must include removal of all possible causes, general and local; correct all faults of occlusion; remove all deposits and all necrotic tissue; re-establish normal circulation in the parts; secure rest, as nearly absolute as possible in the parts by means of splints, either ligatures, wires or plates; enforce an anti-gout regimen with alkaline mineral waters; remove all coarse deposits with scalers; soften remaining deposits with trichloroacetic acid; wash out pockets with pyrozone, 5 per cent; use aromatic sulfuric acid, full strength, or H_2SO_4 diluted one-tenth if there is molecular necrosis of the process; employ 20 per cent argenti nitras as stimulant. *Henry Burchard.*

A Cast-Grinding Surface Gold Crown.—Patient very nervous; tooth very sensitive; grinding almost impossible; cusp of upper molar closing into cavity in lower tooth.

Clean out the cavity and trim walls; fit a band to the tooth; burnish pure gold into the cavity and solder to band forming cup-like cap. Place wax in depression and get impression of upper tooth by biting in wax. Remove from the mouth and invest in sand and plaster, leaving a portion of the wax exposed. Make a slight depression in the investment near the exposure, in which place gold solder, and flux. Heat up and burn out wax; when solder melts, tip the investment and allow solder to flow in and fill place of wax, casting a grinding surface on the articulation.

J. H. Beebe.

Painless Pulp Devitalization.—If there is toothache relieve by the following application:

| | |
|-------------------------|---------|
| Carbolic acid..... | ½ oz. |
| Oil of cloves..... | ½ oz. |
| Acetate of morphia..... | 15 grs. |

Pulp Destroyer:

| | |
|----------------|----------|
| Arsenic..... | 1 part. |
| Antipyrin..... | 2 parts. |
| Lanolin..... | 2 parts. |

Mix with the above a few fibres of "Nerve Devitalizing Fiber." Seal in with cement or gutta-percha and dismiss for one or two weeks.

Carl E. Klotz.

Root-Canal Filling.—Dry thoroughly; then flood with volatile eucalyptal. After waiting a few moments absorb the surplus with spunk and fill with gutta-percha.

W. A. Johnston.

To Check Erosion.—Magnesium hydrate (Phillipp's Milk of Magnesia), a teaspoonful held in the mouth for a few minutes, forms a film-like coating to the surfaces of the teeth, protecting for a period of some hours. Used morning and evening and after meals, it will be found markedly beneficial in retarding erosion.

E. C. Kirk.

Root-Canal Filling.—Dry the canals thoroughly with alcohol; inject a mixture of 2 parts ether, 1 part alcohol; fill with celluloid dissolved in alcohol and ether.

George Allan.

A Combination Filling.—For very large compound proximal cavities extending under the margin of the gum, of which the labial portion will be visible, insert Hill's Stopping, properly contoured, in that portion of the cavity which will be visible. Fill the rest of the cavity with amalgam, finishing off very carefully beneath the gum. At another sitting remove the Hill's Stopping and replace with gold.

C. Edmund Kells, Jr.

ITEMS.

Devitalized teeth can be bleached to almost pure white by using peroxid of hydrogen and hot air.

J. Harbin Pollock, D.D.S., New York City.

* * *

The operator in crown and bridge-work who does not put gold crowns and bands out of view—except in rare cases—will soon be known as the dentist without the best artistic taste. When “fitting crowns,” do not forget the “fitness of things.”

Western.

* * *

A simple remedy for rough skin is to first wash the face thoroughly at night, then rub it with about a teaspoonful of cream, and let it dry in. The skin will look shiny and feel stiff at first; but in the morning you will be surprised to find how soft the skin will be.

Health and Home.

* * *

I had just finished a beautiful rubber plate that had but one thing to mar its presentability, those everlasting dark joints. Knowing the wonderful bleaching powers of pyrozone, 25 per cent, I put it on the joints, and was delighted. Try it and be made happy.

J. A. Frazier, Marion, Ala.

* * *

TO REMOVE GREEN STAINS FROM CHILDREN'S TEETH.—Saturate a pellet of cotton with tincture of iodine and paint the surfaces of several teeth, carrying it with ordinary tweezers. Then with a small brush fixed in the engine and loaded with powdered pumice and borax, equal parts, the stains are easily removed.

Chas. E. Francis.

* * *

DENTISTRY AND CORSETS.—One of the most successful dental surgeons in New York, who has a large “ladies’ practice,” delicately suggests to his nervous patients, when there is nerve rasping work to be done, that the easiest fitting garments that can be worn will increase the powers of endurance. Some of the baneful things he has to contend with in the operating chair are new shoes, tight sleeves, high to choking collars, and worst of all, corsets so tight fitting that the patient, depending on high chest breathing, is in danger of suffocating when the elastic cloth goes on to protect the excavated tooth preparatory to filling.

N. Y. World.

In the resuscitation of the asphyxiated, as from drowning, one of the first points to remember is to pull the tongue forward and thus free the air passages from the obstruction caused by its pressure against the pharynx. It is well to draw the tongue backward and forward and thus secure rythmical entrance of air into the passages.

Medical World.

* * *

COCAIN MAY BE TESTED FOR THUS.—Add to the solution to be examined a drop of a solution of potassium bichromate. If cocain is present a precipitate will form which vanishes rapidly, and on warming, the liquid turns green and gives off fumes having a peculiar odor—that of benzoic acid.

The Literary Digest.

* * *

In taking impressions, and occasionally in applying the rubber-dam, or perhaps the napkin, in filling, many people are very sensitive, and will become nauseated at the slightest touch at the back part of the tongue or the roof of the mouth. This can be often overcome by simply applying a little spirits of camphor to the tongue.

Dr. Watkins.

* * *

COCAIN.—Dr. C. B. Rohland says: "When cocain made its appearance, it was welcomed by none more rapturously than by the dentist. Experience, however, soon cast a shadow over these roseate expectations, and the profession began to recognize that cocain, like all other anesthetics, was a death-dealing drug, and called for the same caution, skill and care in its administration."

* * *

ANTISEPTIC ROOT FILLING.—Dip gutta-percha points in oil of cajeput, which has a tendency to dissolve the gutta-percha, then introduce into the root-canals, first having wiped out canals with oil of cajeput, pressing firmly into place, afterward fill cavity with a suitable filling. This leaves gutta-percha antiseptic and adhering to walls of the canal. This will also do for any gutta-percha fillings.

J. R. Megraw.

* * *

PULP-CAPPING.—Dissolve sufficient gutta-percha in chloroform to half fill an ounce vial; add

| | |
|--------------------|---------|
| Oil of cloves..... | 20 m. |
| Tannic acid..... | 10 grs. |
| Carbolic acid..... | 20 m. |

Seal and shake till thoroughly mixed. Open and allow chloroform to evaporate till a putty-like mass remains. Place over exposed pulp, cover with asbestos paper and flow over it creamy oxiphosphate. Keep the mixture in a glass-stoppered bottle.

G. C. Anthony.

In using nitrate of silver, to prevent any parts being acted on, first apply pure glycerin to the parts to be protected, and so long as the glycerin is on that surface the silver will not act on it. Glycerin taken in the mouth after using nitrate of silver will prevent any particles of silver, which may have been overlooked, from further acting on the mucous membrane.

C. G. Aven, Bristol, Tenn.

* * *

A SUMMER BATH.—Put to a cup of sea salt one-half ounce of camphor, and one-half ounce of ammonia in a quart bottle; fill the bottle with hot water, and let it stand twenty-four hours; then, when prepared to bathe with a sponge, put a teaspoonful of this mixture, well shaken, into your basin. A surprising quantity of dirt will come from the cleanest skin. The ammonia cleanses, and the camphor and sea salt impart a beneficial effect which cannot be exaggerated.

Southern.

* * *

That "no living germ of the disease can resist the antiseptic power of essence of cinnamon for more than a few hours," is the conclusion announced by Mr. Chamberland as the result of prolonged research and experiment. It is said to destroy microbes as effectively, if not as rapidly, as corrosive sublimate. Even the scent of it is fatal to microbes, and Mr. Chamberland says a decoction of cinnamon should be taken freely by persons living in places affected by typhoid or cholera.

Medical Age.

* * *

I have a method of capping dental pulps, which has proved successful in my practice. I have saved 90 per cent of pulps by this method. About three years ago a lady called at my office to have a first lower molar extracted. Instead I inserted carbolic acid on a pellet of cotton, and let it remain about five minutes, while I prepared about three parts cement to one part of iodoform, and as much carbolic acid as it would retain. I removed the pellet of cotton, and immediately introduced the cement. In eight days I removed the filling, and to my surprise this immediately caused intense pain. I must confess I thought this a strange condition. I syringed the blood from the cavity, touched the pulp with carbolic acid and prepared the cavity for a permanent filling. Then filled with cement prepared as in the first instance, and filled the cavity, capping with amalgam. I saw her a short time since, and she assured me that the tooth was as good as any she possessed, and had never given any trouble since it was filled two years and a half ago. I have ever since employed this method of capping exposed pulps, and the result has been good.

G. L. Mitchell, Bay St. Louis, Miss.

EDITORIAL.

PREPARATION FOR OUR LIFE WORK.

Nearly all signal achievements and radical advances in life have come of small beginnings and out of severe trial and, perhaps, great humiliation. Moses was made ready to meet Pharaoh by forty years' isolation and reflection; Israel was made ready for Canaan by forty years' trials in the wilderness; Elisha was made ready to meet wicked Jezebel by forty days' fast as a wanderer; even our Savior prepared Himself for His wonderful public life by forty days' fast among wild beasts.

David uses a beautiful figure to show how humiliation, and then inspiration, may prepare us for great things. He says to the faithful: "God satisfieth thy years with good things, so that thy youth is renewed like the eagle." How is this? As the eagle begins to decline in strength, it enters its nest and remains many days without food or motion, till its feathers fall out, its flesh shrivels, its eyes dim, and at last it seems to be dying. Gradually, though still without food, new feathers appear, which become brighter and longer than the old, the muscles become larger and stronger, and its eyes more piercing; soon it shakes itself, picks its feathers of all incumbrance and filth, and soars away higher and swifter than ever before.

Our Savior told His disciples to go into a similar molting to prepare for Pentecost. "Behold," said He, "I send forth the promise of My Father on you. Tarry in the city till ye be clothed with power from on high." So, after His crucifixion, they shut themselves up, locked the door, and with fear and trembling, but great humiliation, self abasement and discipline, prepared for the wonderful change. My, how they came forth all on fire, and ran to and fro setting the world on fire!

As you see a stripling clear himself of his weights and clogs, and outstrip all competitors, you may think him one of nature's favored sons. If you could go behind the curtain and see him making his wings, you might discover how you, too, might rise and shine.

BIG, USELESS BABIES.

We have too many babies—grown up babies—babies that ought to be men and women, stalwart men and women, with shoulders to the wheel of the world's progress.

Oh, how I dislike to see these great, lazy, good-for-nothing calves blating about for milk, and expecting to be tenderly kept, when they ought to be eating strong meat and earning a good living by doing vigorous work. One would suppose they thought the world was made for their play-ground.

Such babies were superabundant in our Saviour's time. He said the whole generation of pretending men and women were like children on the public play-grounds, spending life frivolously, quarreling about what fun they should have, one wanting to play marriage and another funeral. Hear him: "To what shall I liken this generation? It is like children sitting in the market place calling one to another: We have piped to you and ye have not danced; we wailed to you and ye did not lament."

We have them in the church now. We have kept them on pap and baby food, and candy and delicacies, and indulged them in idleness and play till they have no appetite for substantial food, and no strength or disposition for efficient work. They think and care only for amusement and toys, and the shams of life. They are too lazy to grow, and persist that the church shall be turned into a nursery for their benefit.

We have just such silly, useless, booby babies in our profession. "To keep peace in the family," we have to carry them in our arms, and coax and flatter them, and overlook much nonsense and blundering. We try to make them grow, but can stimulate them neither to growth or sense. Would you know if you are one? Look back five years and see if you have grown. Are you stunted? Do you remain just about the same, year after year? Then you are one of them, a disgrace and a burden to the profession.

If there were not so many sucking at the public crib, Washington would be better off. In the social world they are insatiate leaches.

Come, you great overgrown children, straighten up and show

growth and come to maturity. You have been playing long enough, take hold of robust work and improve the world and yourself; you have been occupied with frivolous things till they have dwarfed you. Stand up like men and show your strength. You have passed innocence, take on the vigor of virtue. Obtain knowledge and skill and an honorable position. Show yourself a man. Give the world the beneficent results of close application to business.

In church and state, in the professions and among the masses, we need more strong men and women; useful, lovable, aggressive. Be one of them. Grow! Grow!

Some trifle with words as children trifle with toys,—throw them about without much patience or order, and never attempt anything specially useful with them. They answer their simple, childlike uses, and they care for nothing more.

But words are wonderful things. Even a child will work at a puzzle; and words are a puzzle of inexhaustible pleasure. But we must work at them with great diligence if we would discover their mysterious possibilities. No child can be more interested with his toy or his puzzle than we should be with our words. They are the carriers of our thoughts, the expression of our passions, and the interpretation of our soul. With artistic skill in their construction they become a vehicle of marvelous attraction and power.

Let us, therefore, no longer use them carelessly as frivolous toys. Our toys must be turned into living things, and our puzzle must be unraveled to become the warp and woof of a beautiful garment. Their combinations prove our skill or our blundering. They may be poor, and so poorly arranged as to be only the expression of idiocy; or they can be so delicate in conception and so mighty in expression, as to lift us from the plain of the dumb brute to the sphere of supreme intelligence.

Nobility, integrity and honor are a trinity of worth that gives manliness, dignity and inspiration; it brings influence, power and wealth; it insures eminence, permanency and substantial success.

Yet, how we neglect the culture which leads up to this grand eminence. We are content with the trivialties of childhood, and live in idleness and frivolous amusements, when we should be engaged with the mighty problems of life. We prefer the dissipations and evil habits of the profligate, and waste our time in nonsense, when we should stand up like men—clean, pure and noble. We become slaves to the passions and enervating excesses of a dissolute life, and squander our best opportunities, when we should be marching on to the wonderful possessions reserved for the faithful. The discipline that brings fortitude, the painstaking that insures skill, the ambition that secures excellence, are far from our thoughts. We lie about loose and useless, a nuisance, a disgrace, a barnacle on society.

A few rise above this low level. We see them gradually grow big and tall and strong, while we remain pigmies. We wonder what gives them their vantage ground, and why we cannot grow too. While we wonder they still pass on and up, and we go downward and backward. When they are among the stalwart of the earth, where are we?

Do we not deserve to be forgotten? We hold the key to success, and do not use it. We have learned the combination that opens the treasure, and yet live on the dross outside. Our trinity of worth—nobility, integrity and honor—will touch the secret spring and give royally of every good. Let us possess it.

There is no other language so complete, beautiful and popular as the English; and there is no other clothed in a poorer and more inconsistent orthography. It has nothing to commend it, and everything to condemn it. It is ridiculous, confusing, outlandish nonsense. It was the first attempt of our heathen forefathers to clothe themselves with some semblance of civilization, after the Romans had found and conquered them on their native isle of Britain. In their effort to fit the Roman alphabet to their crude speech, they produced this queer, awkward medley; yet we still use it in its crudity and inconsistency. We have made it our idol, and we hug the rags as something too sacred to part with; yet the barbarity

we call spelling, consumes our time, cramps our development, and wrongs our children. Let us throw it away and accept the beautiful robe of phonetics. When it is once gone, we shall be ashamed we ever used it.

SHOW YOUR COLORS.

Of course not ostentatiously, defiantly or offensively; but do not be afraid or ashamed of letting the community know you are a man as well as a dentist; and a man of distinct individuality and convictions. Do not sell your principles with your work. Are you a Christian? Show it by your conduct. Are you a temperance man? Prove it by your vote. Are you in favor of woman suffrage? Do your best to accomplish it. Is the community suffering from corrupt demagogal or class legislation? Do not shrink from exposing it. It is easy enough to be a nonentity, and sink into the grave leaving the world no better for your having lived in it; but it needs courage to be the representative of something definite, useful, and aggressive; and it takes still more courage to maintain a position in advance of the multitude. But the world needs just such bold, heroic men. The moral courage and qualities to be such a man will make you a better dentist.

The old English rule that every boy shall learn a trade, and every girl shall know how to make her own clothes and cook her own food, is a good one. Even the Prince of Wales, who is heir apparent to the throne, had to learn a trade. The present Czar of Russia, and his father, and his grandfather were each in youth a skilful workman. Too many of us prepare our children for nothing definite. Many who receive a "liberal education," are not fitted for any special employment. Less "wild oats" would be sown if children were better employed. To run loose, like so many wild colts till young manhood, with no restraining authority and the wisdom of maturer guidance is the ruination of many a promising life. American civilization is in many instances gravely at fault in the method of molding future Presidents, and

the recklessness of results borders dangerously near criminal negligence. Largely, like as the child is, so will be the man. We cannot make of our children dandies and butterflies, and expect them to turn out men and women of culture, usefulness and power.

The antiseptic value of oxiphosphate is not sufficiently considered. Did you ever see caries progress under oxiphosphate? In cavities where the dentine is soft, crumbling or peeling up over the pulp in leathery layers, so that if you are not extremely careful you will expose the pulp, by removing the more advanced and disorganized portion of the walls, and then filling with oxiphosphate, you will find, in three months, all this covering of the pulp firm. Even though this covering had been so loose as to cause toothache, by first introducing, on cotton, chloroform tinctured with oil of cloves and carbolic acid, with a little tannin, this pain will almost immediately subside. In a few minutes, if you remove the caries as far as you can without disturbing the pulp, you may safely fill with oxiphosphate. If the pulp is quite or nearly exposed, first place over it a little Canada balsam, on a small piece of paper. The cavity will be prepared for more thorough preparation and filling in three months. At this time, as much more of the carious portion must be removed as is consistent with the safety of the pulp; none of the dentine immediately over it should be disturbed, whether homogeneous or in layers; then refill with the cement, plating this with alloy or gold, either before or after the cement has hardened.

The antiseptic, hardening, healing, bleaching and anti-thermal character of the oxiphosphate is so great that you will have better results in filling large cavities if most of them are made with it, though, of course, the surface is more durable if covered with metal.

There is certainly an improvement. There is more skill and learning and dignity in the dental profession now than twenty years ago. Let us give credit to our colleges and to our boards. We are not perfect in ability, science, or manners, but if we

improve as much during the next ten years, it will be very creditable. Some are still bungling, ignorant and slovenly; and smell of tobacco and intoxicants. But their numbers grow less; and the ladies who persist in cleanliness, sobriety and ethical conduct are more persistent. If, with the proposed four-year course, we improve the morals, dignity and refinement of our students, the profession may well be congratulated.

But while the halls of our colleges are made filthy by the smoke and the scent and the spatter of tobacco, and profanity and vulgarity and beer are allowed, we can hardly look for clean, high-minded, gentlemanly recruits. I wish some one would inform me where these vices are not allowed that I might "make a note of it."

Oh, for enthusiasm! If we would have success we must go through this world all on fire. A man with only one idea all aglow with enthusiasm will accomplish more than a ripe scholar with a thousand grand thoughts hidden away in pigeon-holes. We allow ourselves to be too much tied up with red tape—hedged about with too much propriety—subjects of too much formality and conservative restrictions. Away with your icebergs, though they glisten beautifully! Give us *men*—men with a warm, genial, inspiring nature; intelligent, but with intense passion; aggressive, daring, venturing their life on success.

Such men will find their place somewhere, somehow, sometime, though they make it in sacrifice and strife; they will find their work, though they find it written all over with "failure," and they will find success though they themselves fail many times. It is fun to see enthusiasts brush aside the pigmies and clear away the rubbish, and make an oasis of the most unpromising places. It matters not whether they are let loose in a wilderness or into "an overcrowded profession," they will force success. I can see them now as they push by all obstacles and opposition, and make a palace where was only a cabin, and success where were only the ashes of the defeated.

Oh, for this enthusiasm which makes all the world bow to our purposes and speed us on our way!

HINTS.

Potassium sulfate will hasten the setting of plaster.

* * *

Hydrogen peroxid is good to staunch excessive bleeding.

* * *

Clinical reports show that there are thirteen lower first molars extracted to one upper.

* * *

There are 118,500 physicians in the United States, and about 14,000 dentists.

* * *

A piece of pumice stone on which to solder is better than charcoal; a block of asbestos is better than either.

* * *

Pyrozone is a first rate application for the removal of fresh blood stains.

* * *

An abscessed tooth may be extracted at any time; there is no reason for delay.

* * *

Dermatol, the subgallate of bismuth, is said to effectually neutralize the excessive acidity of dyspeptic stomachs without injury to the system.

* * *

A strip of thin rubber-dam drawn to and fro on the proximal surface of a tooth freshly filled with alloy or gold will give it a beautiful smooth surface.

* * *

Tincture of iodine removes the stain of nitrate of silver. The application of the iodine should be followed by a little aqua ammonia.

* * *

Dr. Peirce's method of using nitrate of silver is very convenient. He saturates blotting pad paper with a solution of it, and cuts this into small pieces, to be applied as occasion requires.

* * *

Dr. Samuel Phelps, Cincinnati, prescribes papine in cases of neuralgia, finding that it acts charmingly, and without leaving any of the unpleasant effects which usually follow the administration of opiates.

"The Science of Thought," by F. Max Müller, is a pamphlet of three lectures, concise and precise, as all of Mr. Müller's writings are. It is well worth reading for style, and it is just crowded with excellent thoughts. The Open Court Publishing Co., Chicago.

* * *

TO OBTUND SENSITIVE DENTINE.—Apply rubber-dam and place in the cavity a pledget of cotton saturated with one of the essential oils. With chip-blower throw on hot air till oil is evaporated and cotton looks scorched. This is usually successful in white or light brown decay in the teeth of young children.

* * *

In carrying dressing of cotton into the canal of a root the fine point of your bristle or broach will sometimes pierce or slip through instead of carrying the material before it. Break the point and try again. The roughened surface of the point will now work nicely.

* * *

Before packing alloy it should be thoroughly mixed. This reduces its bulk and prevents shrinkage if it has been properly compounded by the manufacturer. Though superfluous mercury should be avoided, it should not be used very dry—it should be smoothly plastic—not be used after crystallization has commenced.

* * *

The Kansas meeting was, as usual, a pronounced success. The number in attendance was less than usual, but the papers and discussions will show that a steady advance along the line of thought in all standard and modern ideas in dentistry is being made by the Kansas Association.

* * *

Dr. Henry Snowden, of Baltimore, one of the publishers of the *American Journal of Dental Science*, is dead. He had been so long and so favorably before the profession, and has done such good service, he will be missed. Thus our pioneers are leaving us. Let us cherish their memories by taking up the work where they have left off and still farther perfect it.

* * *

Many words are not always indicative of important thoughts. Our best intellectual conceptions are clothed with few words well chosen; but if the thoughts are indefinite and illformed, their clothing will be similar. If we said less and thought more, and cultivated clear, definite, rich thoughts, we could soon give them expression in well chosen words. It is this filling the brain with nonsense and shallowness that fills the air with jargon.

Dr. D. W. Barker, of Brooklyn, N. Y., sends us a package of absorbent pads or tongue pads which seem to be quite a novelty. The material of which they are made is something new, though it has been used for surgical and sanitary purposes. Its value consists in its great absorptive properties; it possesses the power of absorbing over 15 times its own weight of water. It may have many uses in dentistry. These pads are designed to take the place of napkins or paper during operations on the lower jaw (or may be placed over the duct of Steno), and where the saliva is extremely profuse.

* * *

Many men are out of employment in our town just now. One came to me for work. His family were suffering for food. "Well, clear up the yard," I said, "and I will pay you." The next day another wanted work. "Clean my windows," I replied. He did it nicely and quickly, and then unbidden cleaned up the yard, though the first had done it after a fashion. He put everything so nicely to rights that I commended him, and finally gave him more delicate and profitable work in my laboratory. The first workman might have had this steady employment if he had done his first work well. How often is one left and another chosen in this way; and the one left is generally whining because he is not chosen. There is a cause. Take a hint if you are not on top in your business. These are dull times perhaps in your town, but there is always work for the most deserving.

* * *

Trichloroacetic acid is finding many uses in our work. In raw sore patches on the lips or in the mouth a little touch of it will relieve pain and soreness, and a few applications will cure. If in filling a cavity to or below the gum there is weeping that keeps the cavity wet, touch the gum with trichloroacetic acid, and there is no further trouble. In scaling the teeth below the gum sometimes we have such excessive bleeding we cannot do our work well, especially if there is pyorrhea, but a little of this acid will clear away the pus, staunch the blood, reduce the congestion of the gum, and cause the accretions on the teeth to crumble. It is often effectual in reducing hypersensitiveness of the teeth, both of the dentine, in excavating a cavity, and on the surface of teeth. But sometimes the very opposite of any acid is required, a strong alkali such as Robinson's remedy should be applied. The trichloroacetic acid should not always be used in full strength. A 10 per cent solution is sometimes preferable.

FOR OUR PATIENTS.

DISCRETION IN FILLING MATERIALS.

Dr. A. H. Brockway, New York.

A little incident occurred the other day that serves to illustrate the necessity of educating the general public as to the scope and object of our calling. There came into my hands, three years ago, a young lady, of eighteen years,—a remarkably pretty girl, but with exceptionally soft and fragile teeth. She had a rather unfortunate experience at the hands of two or three other dentists before she came to me, and I found her mouth in a very unwholesome and unsatisfactory condition. I put it in what I considered good order, and discharged her with the injunction to return in about a year. Last fall she came back to me, and to my great gratification I found her mouth in an extremely satisfactory condition. I found very little to do; I think all that was necessary was to restore two plastic fillings that had been placed in her upper central incisors some three or four years before she came to me. The teeth were of such a fragile nature, and so badly decayed, that the dentist had evidently despaired of saving them with anything except oxiphosphate, and he had very properly used that. I simply had to add a little to what had worn away, and discharged her very much pleased. A few days after, my assistant announced her father, who is a well-known physician. He said he had called to pay his bill. As I never allow any one to wait very long under such circumstances, I stepped into the front room to receive the money. As I entered, I saw him standing there. I did not see his face, but, as Artemus Ward said, "I knew from the expression of his back that his heart was broken."

I saw from his manner that something was amiss with him. I could not conceive what it might be, because I had been so well pleased with the result of my treatment of his daughter that I thought he should be too. He handed out the money with scarcely a word, and I gave him a receipt, but I saw that he had something on his mind, and finally he said, rather irritably:

"I want my daughter's teeth filled with gold."

"Oh, no," said I, "you do not; you think you do, but you don't."

"And pray, why not?" said he.

"Because," said I, "you wish to save her teeth, I know, and they cannot be saved with gold."

"Well!" said he, with some heat, "I had *my* teeth filled with gold thirty years ago, and it saved *them*."

"Very likely," said I, "but unfortunately your daughter has not inherited the excellent quality of her father's teeth, and they require very different treatment for their salvation."

"Oh, well," he replied, "I suppose you dentists can use this cheap putty stuff so much easier, and charge just as much for it as you would for gold—"

"Doctor," said I, interrupting him, "do you base your charges for professional services on the cost of your prescriptions?"

"No, sir!" said he, indignantly.

"Neither do honorable dentists base their charges on the cost of the materials they use," said I; "and while your daughter remains in my hands, I must be permitted to use my own judgment as to the manner in which her teeth shall be cared for. Good morning, sir!" Whereupon he withdrew, not a little ruffled, but I think somewhat enlightened.

Cosmos.

IMPLANTATION.

Dr. S. G. Perry, New York.

In the October number of the *Dental Review* there appears a short article written by Dr. William Mitchell, of London, in which he says:

About seven and a half years ago, Dr. S. G. Perry, of New York, implanted a tooth, which was lost by absorption eighteen months later. A new tooth was obtained, which was also lost from absorption about three years ago. A suitable tooth not being found, an artificial tooth was procured and secured in place. Some time after, the patient presented herself to me for treatment, the porcelain face having become displaced. The three things that impressed me in connection with this case were the enthusiastic persistence of Dr. Perry, the non-absorption of the tooth, gingival margin retaining its place, and also the perfect immobility of the tooth, it evidently being a case of true ankylosis.

This last tooth which Dr. Mitchell considered so successful, or rather the root with the artificial crown, which had been very solid, also loosened from absorption and came out last August. The patient went to a country dentist, who said there was nothing to do but have a plate. He made a small plate for her, with one tooth attached, and put it in. She had had so much comfort with this implanted tooth that she did not abandon her hope of implantation, and though she allowed this dentist to make the plate for her with a single tooth, she filled the little cavity in the gum, which was not quite so deep as in this model, with a little roll of cotton saturated

with listerine, hoping to keep the socket open for the implantation of another tooth on her return to New York in the autumn. In September, as the result of her visit to the country, she was taken with typhoid fever. After the fever abated, she had a severe attack of diphtheria, and she barely pulled through. She kept up this treatment of the little roll of cotton put into this open place in the gum, always moistening it with listerine, as long as she was able to do it after she was ill; and comprehending that she might become delirious, she gave instructions to the nurse to continue to change the cotton from day to day. This the nurse did for her, not only through the illness of typhoid fever, but also through the diphtheria. She was not able to come to my office till the week before last. That is a period during which she wore the cotton in this open place of about six months. She came in the other day, and I deepened the socket and shaped it to my liking, and implanted another root, and on that put another crown, and when that was in place, took an impression, from which the cast was made which I now show you. That operation was performed last week, on Wednesday. Directions were given to her to come to me if there was any annoyance. I have not seen or heard from her, so I think it must be comfortable.

This case, it seems to me, is worth presenting, as showing what can be done in the way of keeping a socket in condition for receiving another tooth. This tooth may fail in time, and yet another one can be put in. The patient will tell you that the operation of each insertion was not at all painful, comparatively, as, of course, in each case cocain was used.

If the members of our profession will have a little more faith in implantation, and more persistence in case of failure, I am sure it can be made of real service to our patients. I consider it a legitimate operation, and I do not, by any means, become discouraged because of failure.

Cosmos.



DR. E. C. CHASE. *Sir,* it Would Be imposable for me to Come I would like to have a Set of teeth my teeth is all out and have Ben for a year if thire is iney way for to get a Set of teeth without coming up thire I would take a Set Perviden they gave Satsfatory if thire is iney way for you to make a Set with out me a Coming let me know Yours truley

NANCY A CRIST

Turner P O Phillip Co Ark.

NOTICES.

AMERICAN DENTAL ASSOCIATION.—The thirty-fourth annual session of the American Dental Association will be held at Old Point Comfort, commencing at 10 A. M., Tuesday, August 7th, 1894.

Geo. H. Cushing, Recording Sect'y.

* * *

The Southern Dental Association will meet on Thursday, August 2d, 1894, at Old Point Comfort, Va.

* * *

The American Dental Association will meet on the following Tuesday, August 7th. These changes are made at the request of the Virginia State Dental Association, which meets in joint session with these Associations, and who desire to entertain them in the true "Old Virginia" style, and we all know what old Virginia hospitality means.

* * *

The next annual session of the Wisconsin State Dental Society will be held at Janesville, Wis., commencing Tuesday, July 17th, and continuing to the 20th.

A cordial invitation is extended to the profession to be present.

C. A. Southwell, Secretary, Milwaukee, Wis.

* * *

At the thirtieth annual meeting of the Illinois State Dental Society held at Springfield, May 8th-11th, 1894, the following officers were elected for the ensuing year: J. W. Cormany, Mt. Carroll, President; S. F. Duncan, Joliet, Vice-President; Louis Ottofy, Chicago, Secretary; W. A. Stevens, Chicago, Treasurer; Grafton Munroe, Springfield, Librarian. The next meeting will be held at Galesburg, May 14th-17th, 1895.

* * *

The New Jersey Dental Society meets July 18th, at Asbury Park.